

Commonwealth of Massachusetts
SUFFOLK SUPERIOR COURT

05/20/2004

02:58 PM

Case Summary

Civil Docket

FILED
IN CLERKS OFFICE

SUCV2004-00445

University of Massachusetts v. Robt. 137

| | | | |
|-------------|------------|-----------|---|
| File Date | 02/02/2004 | Status | Disposed: transferred to other court (dtrans) |
| Status Date | 05/20/2004 | Session | BLS2 - CtRm 20 |
| Origin | 1 | Case Type | BD1 - Intellectual property |
| Lead Case | | Track | B |

| | | |
|-----------|-------------|---------------|
| Service | Answer | Rule12/19/20 |
| Rule 15 | Discovery | Rule 56 |
| Final PTC | Disposition | Jury Trial No |

PARTIES

Plaintiff

University of Massachusetts
Active 02/02/2004

Private Counsel 548114

Heidi E Harvey
Fish & Richardson
225 Franklin Street
Boston, MA 02110
Phone: 617-542-5070
Fax: 617-542-8906
Active 02/02/2004 Notify

Defendant

James M Robt
Served: 04/14/2004
Served (answr pending) 04/22/2004

Private Counsel 238830

Thomas F Holt Jr
Kirkpatrick & Lockhart
75 State Street
Boston, MA 02109-
Phone: 617-261-3100
Fax: 617-261-3175
Active 05/20/2004 Notify

Private Counsel 648072

Amy B Abbott
Kirkpatrick & Lockhart
75 State Street
Boston, MA 02109-1808
Phone: 617-261-3100
Fax: 617-261-3175
Active 05/20/2004 Notify

Private Counsel 567020

Tara C Clancy
75 State St.
Boston Ma
Boston, MA 02109
Active 05/20/2004 Notify

SUCV2004-00445
University of Massachusetts v Robl et al

Defendant
Philippe Collas
Served: 04/14/2004
Served (answr pending) 04/22/2004

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Boston, MA 02109
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ENTRIES

| Date | Paper | Text |
|------------|-------|---|
| 02/02/2004 | 1.0 | Complaint (Business) filed |
| 02/02/2004 | | Origin 1, Type BD1, Track B. |
| 02/02/2004 | 2.0 | Civil action cover sheet filed |
| 02/12/2004 | 3.0 | Notice of acceptance into business litigation session (vanGestel,J) |
| | | Notice sent 2/9/04 (entered 2/6/04) |
| 04/22/2004 | 4.0 | SERVICE RETURNED: James M Robl(Defendant) (Express Mail return receipt requested) |
| 04/22/2004 | 5.0 | SERVICE RETURNED: Philippe Collas(Defendant) (express mail return receipt requested) |
| 05/11/2004 | 6.0 | Defendants' Emergency Motion to Enlarge the Time to Answer the Complaint & Allowed without prejudice to the plaintiff's ability to seek relief from this order during the week of May 10, 2004 (Botsford,J) (Dated 5/7/04) Given in hand 5/7/04 |
| 05/20/2004 | | Certified copy of petition for removal to U. S. Dist. Court of Defts. James M. Robl and Philippe Collas U. S. Dist. #(04-11013RGS). |
| 05/20/2004 | | Case REMOVED this date to US District Court of Massachusetts |

EVENTS

case01 235202 y y y y y y

Page 2 of 3

I HEREBY ATTEST AND CERTIFY ON

MAY 21, 2004, THAT THE

FOREGOING DOCUMENT IS A FULL,
TRUE AND CORRECT COPY OF THE
ORIGINAL ON FILE IN MY OFFICE,
AND IN MY LEGAL CUSTODY.

MICHAEL JOSEPH DONOVAN
CLERK / MAGISTRATE
SUFFOLK SUPERIOR CIVIL COURT
DEPARTMENT OF THE TRIAL COURT

BY


ASSISTANT CLERK.

Suffolk Superior civil # 04-0445 BLS2 ✓

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

I HEREBY ATTEST AND CERTIFY ON 5/19/04
THAT THE FOREGOING DOCUMENT IS A FULL, TRUE
AND CORRECT COPY OF THE ORIGINAL ON FILE
IN THE OFFICE OF THE CLERK OF COURT.

UNIVERSITY OF MASSACHUSETTS,

Plaintiff,

v.

JAMES M. ROBL and PHILIPPE COLLAS,

Defendants.

BY:  *[Signature]*

04 11013 RGS

NOTICE OF REMOVAL

SUFFOLK SUPERIOR COURT
CLERK'S OFFICE
2004 MAY 20 12:48

The Defendants James M. Robl ("Robl") and Philippe Collas ("Collas") (collectively "Defendants") hereby exercise their rights under the provisions of 28 U.S.C. §§ 1441, *et seq.*, to remove this action from the Superior Court, Suffolk County, Massachusetts to the United States District Court for the District of Massachusetts. The present case, styled *University of Massachusetts v. James M. Robl and Philippe Collas*, Civil Action No. 04-0445-BLS, was filed on February 2, 2004, and has not yet been tried. A true and correct copy of the Complaint is attached as Exhibit A.

For the following reasons, removal to this Court is proper at this time:

1. This action arises out of a dispute concerning inventions in the field of animal cloning and cell reprogramming. The Plaintiff, University of Massachusetts ("University" or "Plaintiff"), is seeking expectation damages resulting from its alleged inability to file, support, prosecute and obtain the issuance of patents that fully describe and disclose certain inventions. The Plaintiff further claims that at least some of the disputed inventions are the same as those contained in patent applications filed by the Defendants at the United States Patent and Trademark Office (the "USPTO"). Ascertaining the scope and content of these inventions

unavoidably implicates federal patent law. While the Plaintiff has also asserted a litany of common law contractual claims, this case will ultimately turn on the construction of claims in the Defendants' patent applications, and a comparison of those claims with the Plaintiff's claimed inventions.

2. As a consequence, this Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1338(a) and 1367(a), pursuant to which the federal district courts have original and exclusive jurisdiction over any civil action arising under any act of Congress relating to patents, and supplemental jurisdiction over certain related claims. The Court also has original jurisdiction over this action pursuant to 28 U.S.C. § 1332, in that the matter in controversy, as set forth in the Complaint, exceeds the sum or value of \$75,000,00, exclusive of interest and costs, and is between citizens of different states.

Federal Question Jurisdiction

3. Removal of the instant action is based on claims "arising under" federal patent law. Specifically, the Plaintiff claims that the Defendants made valuable inventions using University resources. The Plaintiff further claims that inventions disclosed in the Defendants' patent applications filed with the USPTO include certain inventions made at the University. The Plaintiff's right to relief necessarily depends on resolution of a substantial question of federal patent law – namely the construction of the claims in the Defendants' patent application. This is the fundamental and dispositive inquiry underlying the University's entire case. The United States Supreme Court has held that the scope of an invention is determined by the claims. *See Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 336 U.S. 271, 277 (1949). The Supreme Court has further held that the determination of the scope and meaning of a patent claim is determined as a matter of federal law. *Markman v. Westview, Instruments, Inc.*, 517 U.S. 370, 390 (1996).

To determine whether any invention was made at the University, questions concerning conception, which has been defined as the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice and reduced to practice, must be resolved. What constitutes an invention is governed by 35 U.S.C. § 101. Thus, the issues raised in the Complaint, concerning the scope of any invention made at the University, on the one hand, and the scope of the inventions claimed in the patent applications filed with the USPTO, on the other hand, necessarily involve the determination of substantial questions of federal patent law.

Diversity Jurisdiction

4. In determining whether complete diversity exists, the Court must consider the citizenship of all properly joined parties. *See* 28 U.S.C. § 1332(a). While the Complaint identifies the sole Plaintiff as University of Massachusetts, the real party in interest is an independent subdivision of the University, specifically the Office of Commercial Ventures and Intellectual Property (“CVIP”), which is responsible for “administering the development and commercialization of intellectual property through licensing or other arrangements.” *See* Complaint ¶ 21. Upon information and belief, the CVIP is organizationally and financially autonomous from the University. Thus, both at the time the Complaint was filed in state court and at the time of removal, the University was a citizen of Massachusetts, per force the existence and status of the CVIP, the real party in interest.

5. The Complaint identifies Defendant Collas as an individual residing in Oslo, Norway. *See* Complaint ¶ 3. Both at the time the Complaint was filed in state court and at the time of removal, Defendant Collas was a citizen of France residing in Norway. The Complaint identifies Defendant Robl as an individual residing in Brandon, South Dakota. *See* Complaint ¶ 2. Both at

the time the Complaint was filed in state court and at the time of removal, Defendant Robl was a citizen of South Dakota. Under the facts presented, complete diversity of citizenship exists.

6. The amount in controversy requirement of 28 U.S.C. § 1332 is satisfied in that the amount in controversy exceeds the sum of \$75,000.00, exclusive of interest and costs.

Procedural Compliance

7. In accordance with the requirements of 28 U.S.C. § 1446(b), this Notice of Removal is filed within thirty (30) days after the receipt by Robl, and attempted service on Collas, of a copy of the initial pleadings setting forth the claim for relief on which this removal is based.

8. Pursuant to 28 U.S.C. § 1441, *et seq.*, the right exists to remove this cause from the Superior Court, Suffolk County, Massachusetts, which embraces the place where the action is pending, to the United States District Court for the District of Massachusetts.

9. Pursuant to 28 U.S.C. § 1446(a), attached hereto is a copy of the Complaint bearing Civil Action No. 04-0445-BLS filed in the Superior Court, Suffolk County, Massachusetts (Exhibit A), and a copy of all process, pleadings and orders served or attempted to be served upon the Defendants (Exhibit B).

10. Pursuant to 28 U.S.C. § 1446(d), written notice of the filing of this Notice of Removal will be served upon the Plaintiff.

11. Pursuant to 28 U.S.C. § 1446(d), a true and correct copy of this Notice of Removal will be filed with the clerk of the Superior Court, Suffolk County, Massachusetts.

WHEREFORE, the Defendants respectfully request removal of this action from the Superior Court, Suffolk County, Massachusetts where it is now pending to this Court, that this Court accept jurisdiction of this action, and henceforth that this action be placed upon the docket of this Court for further proceedings, same as though this case had originally been instituted in this Court.

. HEREBY ATTEST AND CERTIFY ON

MAY 21, 2004 THAT THE

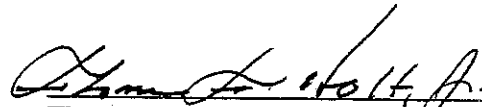
FOREGOING DOCUMENT IS A FULL,
TRUE AND CORRECT COPY OF THE
ORIGINAL ON FILE IN MY OFFICE,
AND IN MY LEGAL CUSTODY.

MICHAEL JOSEPH DONOVAN
CLERK / MAGISTRATE
SUFFOLK SUPERIOR CIVIL COURT
DEPARTMENT OF THE TRIAL COURT

BY 

ASSISTANT CLERK.

Respectfully submitted,



Thomas F. Holt, Jr. (BBO# 238630)
Tara C. Clancy (BBO# 567020)
Amy B. Abbott (BBO# 648072)
KIRKPATRICK & LOCKHART LLP
75 State Street
Boston, Massachusetts 02109
Tel: (617) 261-3100

Dated: May 19, 2004

CERTIFICATE OF SERVICE

I, Amy B. Abbott, hereby certify that on May 19, 2004, I served a copy of the foregoing Notice of Removal by hand upon all attorneys of record.

Amy B. Abbott
Amy B. Abbott

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

SUPERIOR COURT

UNIVERSITY OF MASSACHUSETTS,

Plaintiff,

v.

JAMES M. ROBL and PHILIPPE COLLAS,

Defendants.

Civil Action No. 03-0445 BLS2
(Judge Botsford)

NOTICE OF FILING OF NOTICE OF REMOVAL

PLEASE TAKE NOTICE that on May 19, 2004, Defendants James M. Robl and Philippe Collas filed a Notice of Removal in the United States District Court for the District of Massachusetts in the above-captioned case. A certified copy of the Notice of Removal is attached hereto as Exhibit 1.

SUFFOLK SUPERIOR COURT
CIVIL CLERK'S OFFICE
2004 MAY 20 P 12:48
RECEIVED
CLERK'S OFFICE

Respectfully submitted,

Gary B. Clancy

Thomas F. Holt, Jr. (BBO# 238830)
Tara C. Clancy (BBO# 567020)
Amy B. Abbott (BBO# 648072)
KIRKPATRICK & LOCKHART LLP
75 State Street
Boston, Massachusetts 02109
Tel: (617) 261-3100

Dated: May 20, 2004

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the above document was served upon the attorney of record for each other party by mail on 5/20/04
Gary B. Clancy

| | | | |
|--|--|---|---|
| CIVIL ACTION COVER SHEET | | DOCKET NO.(S) B.L.S. 04-0445 | Trial Court of Massachusetts Superior Court Department County: SUFFOLK |
| PLAINTIFF(S) UNIVERSITY OF MASSACHUSETTS | | DEFENDANT(S) JAMES M. ROBL and PHILIPPE COLLAS | |
| ATTORNEY, FIRM NAME, ADDRESS AND TELEPHONE Heidi E. Harvey, Fish & Richardson P.C. 225 Franklin Street, Boston, MA 02110 Board of Bar Overseers number: 548,114 (617) 542-5070 | | ATTORNEY (If known) | |
| Origin Code Original Complaint | | | |
| CODE NO. D.1 | TYPE OF ACTION AND TRACK DESIGNATION (See reverse side) TYPE OF ACTION (specify) TRACK IS THIS A JURY CASE? Breach of Contract re * Intellectual Property (B) () Yes (XX) No | | |
| The following is a full and detailed statement of the facts on which plaintiff relies to determine eligibility in to The Business Litigation Session. | | | |
| <p>This action is based upon the misappropriation by defendants Robl and Collas of valuable inventions in the field of animal cloning and cell reprogramming. These inventions were made by defendants at the University of Massachusetts ("University") with University support, funds, facilities, equipment, and materials and are owned by the University under express agreements between the defendants and the University. Since 1994, the University has had certain contractual obligations to Advanced Cell Technology ("ACT") by which the University was obligated to provide ACT with at least a right of first refusal and/or exclusive rights to certain inventions, including the inventions that are the subject of this lawsuit, and the University and ACT entered into an exclusive license agreement in 2003 that explicitly included these inventions. Despite being aware of their obligations to the University and the University's contractual obligations to ACT, defendants Robl and Collas have wrongly filed patent applications for these inventions that are owned by the University. The defendants have also wrongly purported to assign these applications to third parties, which have then offered to license the inventions to other third parties.</p> <p>Plaintiff University brings claims for declaratory judgment, breach of contract, intentional interference with contract and prospective contractual relations, conversion and breach of duty. The action therefore belongs in the Business Litigation Session because it contains claims involving the intellectual property defendants misappropriated (D.1), claims relating to the employment agreements of the defendants (A.2), and claims involving breach of contract, breach of duty and intentional interference with contract and prospective contractual relations (BE.1).</p> | | | |
| *A Special Tracking Order shall be created by the Presiding Justice of the Business Litigation Session at the Rule 16 Conference. | | | |
| PLEASE IDENTIFY, BY CASE NUMBER, NAME AND COUNTY, ANY RELATED ACTION PENDING IN THE SUPERIOR COURT DEPARTMENT | | | |
| <p>"I hereby certify that I have complied with the requirements of Rule 5 of the Supreme Judicial Court Uniform Rules on Dispute Resolution (SJC Rule 1:18) requiring that I provide my clients with information about court-connected dispute resolution services and discuss with them the advantages and disadvantages of the various methods."</p> <p>Signature of Attorney of Record <i>Heidi E. Harvey</i> DATE: 1/30/04</p> | | | |
| <small>JD-CV-4 00005-11/00 A.D.S.C. 1-0000</small> | | | |

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ORIGINAL ON FILE IN MY OFFICE,
AND IN MY LEGAL CUSTODY.

MICHAEL JOSEPH DONOVAN
CLERK / MAGISTRATE
SUFFOLK SUPERIOR CIVIL COURT
DEPARTMENT OF THE TRIAL COURT

BY.

Lorraine A. Antosca
ASSISTANT CLERK.

NOTIFY

2-9 ✓

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

SUPERIOR COURT
CIVIL ACTION
NO. 04-0445 BLS2
(Judge Botsford)

3

UNIVERSITY OF MASSACHUSETTS

vs.

JAMES M. ROBL, et al.

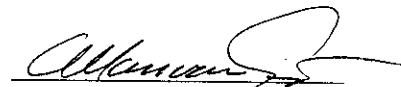
NOTICE OF ACCEPTANCE INTO
BUSINESS LITIGATION SESSION

This matter has been accepted into the Suffolk Business Litigation Session. It has been assigned to Judge Botsford.

Hereafter, as shown above, all parties must include the initials "BLS2" at the end of the docket number on all filings. Also, Judge Botsford's name must be included.

Counsel for the plaintiff(s) is hereby advised that within seven (7) days of the filing of an appearance, answer, motion or other response to the complaint by or on behalf of the defendant(s) which has been served with process within the time limitation of Mass. R. Civ. P. Rule 4(j), or such other time as may be modified by the Court, he or she shall send notice thereof to the Session Clerk, Business Litigation Session, Courtroom 20, Suffolk Superior Court, 90 Devonshire Street, Boston, MA 02109.

Upon receipt of such notice, the Court will issue a Notice of Initial Rule 16 Conference for purposes of meeting with all counsel to plan for the litigation and resolution of this matter. If possible, the Court requests counsel for the plaintiff(s) to confer with counsel for the defendant(s) and to suggest to the Court a range of dates available for all parties for this purpose and to include those dates in the notice. The Court, however, retains the discretion to schedule the hearing at a time that fits within its own schedule.


Allan van Gestel, Presiding Justice
Business Litigation Session

DATED: February 6, 2004

notice sent 2/9/04
H.E.H.
F & R

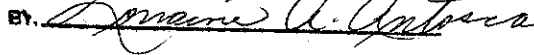
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(mm)

**MICHAEL JOSEPH DONOVAN
CLERK / MAGISTRATE
SUFFOLK SUPERIOR CIVIL COURT
DEPARTMENT OF THE TRIAL COURT**

BY: 
ASSISTANT CLERK.

Commonwealth of Massachusetts

4

SUFFOLK, ss.

SUPERIOR COURT DEPARTMENT
OF THE TRIAL COURT
CIVIL ACTION

No. 04-0445 BLS2

UNIVERSITY OF MASSACHUSETTS

, Plaintiff(s)

v.

JAMES M. ROBL AND PHILIPPE COLLAS

Defendant(s)

SUMMONS

To the above-named Defendant: (James M. Robl)

You are hereby summoned and required to serve upon Heidi E. Harvey,

plaintiff's attorney, whose address is Fish & Richardson P.C., 225 Franklin St., an answer to
Boston, MA 02110
 the complaint which is herewith served upon you, within 20 days after service of this summons upon you,
 exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for the
 relief demanded in the complaint. You are also required to file your answer to the complaint in the office
 of the Clerk of this court at Boston either before service upon plaintiff's attorney or within a reasonable
 time thereafter.

Unless otherwise provided by Rule 13(a), your answer must state as a counterclaim any claim which
 you may have against the plaintiff which arises out of the transaction or occurrence that is the subject
 matter of the plaintiff's claim or you will thereafter be barred from making such claim in any other action.

Witness, Suzanne V. DelVecchio, Esquire, at Boston, the 14th day of
April, in the year of our Lord two thousand and four.

Clerk/Magistrate

NOTES.

1. This summons is issued pursuant to Rule 4 of the Massachusetts Rules of Civil Procedure.
2. When more than one defendant is involved, the names of all defendants should appear in the caption. If a separate summons is used for each defendant, each should be addressed to the particular defendant.
3. TO PLAINTIFF'S ATTORNEY: PLEASE CIRCLE TYPE OF ACTION INVOLVED
 (1) TORT - (2) MOTOR VEHICLE TORT - (3) CONTRACT - (4) EQUITABLE RELIEF - (5) OTHER

FORM CIV.P. 1 3rd Rev.

HEREBY ATTEST AND CERTIFY ON

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MICHAEL JOSEPH DONOVAN
 CLERK / MAGISTRATE
 SUFFOLK SUPERIOR CIVIL COURT
 DEPARTMENT OF THE TRIAL COURT

BY:

ASSISTANT CLERK.

NOTICE TO DEFENDANT — You need not appear personally in court to answer the complaint, but if you claim to have a defense, either you or your attorney must serve a copy of your written answer within 20 days as specified herein and also file the original in the Clerk's Office.

Commonwealth of Massachusetts

5

SUFFOLK, ss.

SUPERIOR COURT DEPARTMENT
OF THE TRIAL COURT
CIVIL ACTION

No. 04-0445 BLS2

UNIVERSITY OF MASSACHUSETTS

, Plaintiff(s)

v.

JAMES M. ROBL AND PHILIPPE COLLAS

Defendant(s)

SUMMONS

To the above-named Defendant: (Philippe Collas)

You are hereby summoned and required to serve upon Heidi E. Harvey,

plaintiff's attorney, whose address is Fish & Richardson P.C., 225 Franklin St., an answer to
Boston, MA 02110
 the complaint which is herewith served upon you, within 20 days after service of this summons upon you,
 exclusive of the day of service. If you fail to do so, judgment by default will be taken against you for the
 relief demanded in the complaint. You are also required to file your answer to the complaint in the office
 of the Clerk of this court at Boston either before service upon plaintiff's attorney or within a reasonable
 time thereafter.

Unless otherwise provided by Rule 13(a), your answer must state as a counterclaim any claim which
 you may have against the plaintiff which arises out of the transaction or occurrence that is the subject
 matter of the plaintiff's claim or you will thereafter be barred from making such claim in any other action.

Witness, Suzanne V. DelVecchio, Esquire, at Boston, the 14th day of
April, in the year of our Lord two thousand and four.

Clerk/Magistrate

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MICHAEL JOSEPH DONOVAN
 CLERK / MAGISTRATE
 SUFFOLK SUPERIOR CIVIL COURT
 DEPARTMENT OF THE TRIAL COURT

BY:

ASSISTANT CLERK.

NOTICE TO DEFENDANT
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 original in the Clerk's Office.

6

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, SS.

SUPERIOR COURT DEPARTMENT
OF THE TRIAL COURT

UNIVERSITY OF MASSACHUSETTS,

Plaintiff,

v.

JAMES M. ROBL AND
PHILIPPE COLLAS,

Defendants.

Civil Action No. 04-0445 BLS2
(Judge Botsford)**DEFENDANTS' EMERGENCY MOTION TO
ENLARGE THE TIME TO ANSWER THE COMPLAINT**

Pursuant to Superior Court Rule 9A(e)(1), Defendants, James M. Robl ("Robl") and Philippe Collas ("Collas"), hereby move for an emergency order to enlarge the time in which they have to answer the Plaintiff's Complaint ("Complaint"). As it stands, the Defendants' answer is due on May 10, 2004. The Defendants request an extension until May 24, 2004, to file a responsive pleading to the Complaint (a 14 day extension). In support of this Motion, Robl and Collas state as follows:

1. On April 19, 2004, the named Plaintiff in this case, University of Massachusetts ("University") forwarded copies of the Complaint, via certified mail, to Robl in Brandon, South Dakota and Collas at the Hematech Laboratory in Sioux Falls, South Dakota.

2. Robl is an American Citizen. He resides in Brandon, South Dakota.

5-7-04 NOTICE GIVEN IN HAND

T.F.H.
T.C.C.
A.B.A.
J.S.R.Left to mail
Notice to Plaintiff

The motion is allowed without prejudice to the Plaintiff's ability to seek relief from this order during the week of May 10, 2004. (Judge Botsford) 5/7/04

3. Collas is a foreign citizen. He resides in Oslo, Norway.

4. The subject matter of this litigation concerns inventions in the field of biotechnology, and in particular the fields of cloning and cell reprogramming, which is inherently complex. The Complaint includes a total of eighty-five separate paragraphs, many of which include allegations relating to this technology.

5. Kirkpatrick & Lockhart LLP has been retained to represent Robl and Collas in this matter. Kirkpatrick & Lockhart is located in Boston, Massachusetts. In light of the complex nature of this dispute, and the geographic distance between the Defendants and counsel, additional time is necessary to investigate the factual and legal allegations set forth in the Complaint.

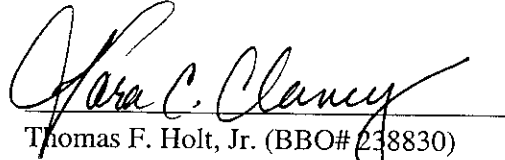
6. The Defendants have contacted opposing counsel in this matter to request an extension of time to answer the Complaint. Opposing counsel refused to grant an extension unless Defendant Collas agreed to waive any defects in the service of process. This request is unreasonable as there exists a serious question as to the propriety of serving Collas via certified mail addressed to a company located in South Dakota.

7. The named Plaintiff will not be prejudiced by allowance of this Motion.

In light of the foregoing, the Defendants respectfully request that the Court grant Defendants' Emergency Motion to Enlarge the Time to Answer the Complaint.

JAMES M. ROBL AND PHILIPPE COLLAS,

By their attorneys,



Thomas F. Holt, Jr. (BBO# 238830)

Tara C. Clancy (BBO# 567020)

Amy B. Abbott (BBO# 648072)

Jason S. Pinney (BBO# 658853)

75 State Street

Boston, MA 02109

(617) 261-3100

Dated: May 7, 2004

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MICHAEL JOSEPH DONOVAN
CLERK / MAGISTRATE
SUFFOLK SUPERIOR CIVIL COURT
DEPARTMENT OF THE TRIAL COURT

BY: 

ASSISTANT CLERK.

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the
above document was served upon the
attorney of record for each other party
by mail and on May 7, 2004



1

COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

SUPERIOR COURT

04-0445 - BLS

UNIVERSITY OF MASSACHUSETTS,

Plaintiff,

v.

JAMES M. ROBL AND PHILIPPE COLLAS,

Defendants.

COMPLAINT

CHIFFOLK SUPERIOR COURT
CIVIL CLERK'S OFFICE
JUN 02 . 2 P 2:42
MICHAEL JOSEPH DORR
CLERK/MAGISTRATE

For its Complaint, the plaintiff, University of Massachusetts ("University"), alleges as follows:

The Parties

1. The plaintiff University is a university established under M.G.L. ch. 75 with its business headquarters and principal place of business in Suffolk County, Massachusetts.
2. On information and belief, defendant James M. Robl ("Robl") is an individual residing in Brandon, South Dakota.
3. On information and belief, defendant Philippe Collas ("Collas") is an individual residing in Oslo, Norway.
4. This is an action for declaratory judgment under M.G.L. c.231A, breach of contract, specific performance of contract, injunctive relief, conversion, breach of duty, and related claims under the common law of the Commonwealth of Massachusetts, based upon the misappropriation by defendants Robl and Collas of valuable inventions in the field of animal cloning and cell reprogramming, which inventions were made by defendants at the University and with University support, funds, facilities, equipment, and materials and are therefore owned by the University under express agreements between the defendants and the University.

5. The events giving rise to this action occurred substantially and primarily in the Commonwealth of Massachusetts, and the action arises out of agreements between defendants Robl and Collas and the University which were executed and to be performed in the Commonwealth of Massachusetts. Upon information and belief, there is no reasonable likelihood that the expected recovery in this matter is less than \$25,000.

Robl's and Collas' Obligations to the University

6. At all times relevant to this action, defendants Robl and Collas were parties to express written agreements in which, in return for agreed compensation, Robl and Collas agreed that the University would own inventions made by defendants with University support, funds, facilities, materials, and equipment.

7. Defendant Robl was employed as a professor by the University from September 1, 1985, through September 25, 2000, and he currently holds an appointment as an adjunct professor, which appointment runs from September 26, 2000, to August 31, 2004.

8. Defendant Collas was a student at the University from 1988 until 1991, when he received his Ph.D. from the Department of Veterinary and Animal Science. Since September 1, 1992, Collas has held an appointment as an Adjunct Assistant Professor by the University, and this appointment runs through August 31, 2004.

9. At all times relevant to this action, Robl and Collas were subject to the policies of the University, including the Intellectual Property Policy (the "Intellectual Property Policy"), attached hereto as Exhibit 1. The Patent Policy of the University of Massachusetts at Amherst and Boston, originally dated April 2, 1986, as amended, was renamed as the Intellectual Property Policy and passed by the Board of Trustees on April 2, 1997.

10. Robl and Collas are subject to the Intellectual Property Policy, which defines "Covered Individuals" as "All staff, faculty members, students, adjunct professors in residence, and any other individuals associated with the University" in Section I (B).

11. Under the Intellectual Property Policy, the University owns inventions made by Robl and Collas with University resources (Exhibit 1, Section III (B)(1)):

The University will own any Intellectual Property (other than Exempted Scholarly Works) that is made, discovered or created by any Covered Individual who makes significant use of University resources (including University-administered funds or University-funded time, facilities, or equipment) in connection with the development of such Intellectual Property.

12. The inventions at issue here are not Exempted Scholarly Works.

13. Robl expressly agreed to be bound by the Intellectual Property Policy shortly after he began his employment with the University in September 1988 when he signed the University of Massachusetts at Amherst Participation Agreement on October 11, 1988 ("Robl's UMass Participation Agreement"), attached hereto as Exhibit 2 (paragraph 1):

I have read and understand the Patent Policy of the University of Massachusetts at Amherst and Boston (T85-091A), a copy of which is attached hereto and made a part hereof. In consideration of the benefits to me, which result from my participation in research supported by the University of Massachusetts, I agree to abide by said policy, as amended.

14. Robl's UMass Participation Agreement required him, if requested by the University, to assign to the University inventions resulting from research for which he received financial support from the University (Exhibit 2, paragraph 3):

[F]or inventions resulting from research for which I receive financial support from the UNIVERSITY or make use of University funds, facilities (excluding libraries), equipment or materials, I agree if requested by the University Patent Administrator to do the following:

(1) assign to the UNIVERSITY (or its designated entity) all rights, which I have or may acquire in such Inventions in the United States and foreign countries;

(2) supply all information and execute all documents necessary to obtain, maintain and protect the University's patent and other proprietary rights in such Inventions;

(3) comply with any obligations of the University to the United States Government or other sponsors under contracts or grants with respect to such Invention.

15. On June 27, 1999, Collas signed a University of Massachusetts at Amherst Participation Agreement (“Collas’ UMass Participation Agreement”), attached hereto as Exhibit 3, in which he expressly agreed to be bound by the Intellectual Property Policy (Section 1):

I acknowledge that I have read and understood the Intellectual Property Policy (the “Policy”) of the University of Massachusetts (the “University”), a copy of which is attached to this Agreement, and I agree to abide by the terms of such Policy, as amended.

16. Collas’ UMass Participation Agreement included a present assignment, as of the date of the agreement, of all inventions, among other things, for which the University asserted ownership (Exhibit 3, Section 4):

I hereby assign, transfer, and convey to the University all of my right, title, and interest in any Inventions, Copyrightable Works, and Tangible Research Materials for which the University asserts ownership under Section III.B of the Policy.

17. Collas also agreed to cooperate with the University’s requests for necessary documentation to protect University Intellectual Property (Exhibit 3, Section 4):

At the request of the University, I agree to execute and deliver promptly a specific assignment to the University of my right, title, and interest to such Intellectual Property, including without limitation any proprietary rights arising from patent applications or copyright registrations in the United States and foreign countries. I further agree to supply the University with all information and to execute all documents necessary to obtain and maintain patents, copyrights, or other forms of legal protection for such Intellectual Property.

18. Collas’ UMass Participation Agreement required him to disclose inventions developed with University resources or closely similar to specific research in which he was engaged at the University before taking any step to commercialize such inventions (Exhibit 3, Section 2):

In accordance with Section III.C.1 of the Policy, I agree to make the following disclosures to the University Office of Commercial Ventures and Intellectual Property (“CVIP”) or the Vice Chancellor for Research (“VC for Research”):

(1) I am encouraged to disclose any Inventions, Copyrightable Works (except Exempted Scholarly Works), and commercially valuable Tangible Research Materials that (i) I develop with significant use of University resources or (ii) that

closely resemble a specific research project in which I am engaged at the University; however, if I intend to commercialize such Intellectual Property, disclosure is required reasonably before I take any action to commercialize such Intellectual Property. Examples of commercial actions include, without limitation, seeking patent or copyright protection, commencing discussions with potential inventors or licensees, or transferring the Intellectual Property to a third party.

(2) I am required to disclose any Inventions, Copyrightable Works (including Exempted Scholarly Works), and Tangible Research Materials that the University has specifically hired or commissioned me to develop, except as otherwise provided in a written agreement between me and the University; and

(3) I am required to disclose any Inventions, Copyrightable Works (including Exempted Scholarly Works), and Tangible Research Materials that I develop in the course of research funded by a sponsor pursuant to a grant or research agreement that requires such disclosure, or which is subject to a materials transfer agreement, confidential disclosure agreement, or other legal obligation requiring such disclosure.

The Inventions At Issue

19. During his employment with the University, up to and including September 2000, Robl was engaged in University-funded research in the field of cell reprogramming and cloning techniques for mammals.

20. On November 23, 1998, defendant Robl signed Invention Disclosure UMA 99-19, titled "Reprogramming Nuclear Function in Somatic Cell Cytoplasm" listing Robl as inventor.

21. The University Office of Commercial Venture and Intellectual Property ("CVIP"), which has primary responsibility for administering the development and commercialization of intellectual property through licensing or other arrangements, accepted Invention Disclosure UMA 99-19 on November 30, 1998.

22. Starting in approximately April 1999, Collas joined Robl's research group at the University in the field of cell reprogramming and animal cloning.

23. Collas' expressly agreed in his UMass Participation Agreement that the University owned inventions relating to the specific research he was undertaking with Robl between April 1999 and April 2001 (Exhibit 3, Section 2):

I understand that this Agreement applies to the following project as well as any other Intellectual Property I may develop at University facilities:

Consulting in weekly time periods three times/year, with the first visit on April 11 through April 21, 1999, for a maximum of two years on subjects pertaining to research topics supporting Cyagra's funded research in Dr. James Robl's laboratory on OGCA SRA #99A0106 "Transgenic Strategy for Production of Single Sex Offspring" or OGCA SRA #99A0115 "Strategies for Cloning of Adult Cattle".

24. On July 5, 2000, defendant Robl signed Invention Disclosure UMA 01-02, titled "Reprogramming of Somatic Cell Nuclei In Vitro for Use in Nuclear Transplantation," listing Robl and Collas (along with two other researchers) as possible inventors.

25. CVIP accepted Invention Disclosure UMA 01-02 on July 7, 2000.

26. Collas was asked to sign Invention Disclosure UMA 01-02, but without any good faith basis in fact or law, he refused to sign it. When Collas refused to sign Invention Disclosure UMA 01-02, he said that his reason was that he wanted to be paid a larger percentage of any commercial proceeds of the invention than he had previously agreed to accept under the Intellectual Property Policy and the Participation Agreement. However, Collas never made any statement, or otherwise indicated by word or conduct, that the University was not the rightful owner of the invention described in Invention Disclosure UMA 01-02 at the time he was asked to sign the invention disclosure.

27. From April 15, 1994, to present, the University and Advanced Cell Technology ("ACT") have been parties to certain agreements by which UMass was obligated to provide ACT with at least the right of first refusal and/or exclusive rights to certain inventions owned by UMass, including the inventions in Invention Disclosures UMA 99-19 and UMA 01-02.

28. The University and ACT entered into an Exclusive License Agreement (the "2003 License Agreement") on April 1, 2003, which includes Invention Disclosures UMA 99-19 and UMA 01-02.

29. Upon information and belief, Robl was aware of the University's contractual obligations to ACT regarding Invention Disclosures UMA 99-19 and UMA 01-02 at least as early as each invention disclosure was prepared, as well as ACT's interest in the inventions. In Invention Disclosure UMA 99-19, in response to a question regarding possible commercial interest in the invention, Robl wrote, "Advanced Cell Technology, Inc. has expressed interest." Robl also disclosed, "I am a consultant and stock holder in Advanced Cell Technology, Inc." Likewise, in Invention Disclosure UMA 01-02 Robl identified ACT as one of the parties that would potentially be commercially interested in the invention. He wrote, "James Robl has equity in ACT and is a consultant." Upon further information and belief, Robl was aware that ACT had provided funding to the University and to Robl's laboratory for the research described in Invention Disclosure 01-02.

30. Upon information and belief, Collas was aware of the University's contractual obligations to ACT regarding Invention Disclosure UMA 01-02 at least as early as the time the invention disclosure was prepared.

Robl's and Collas' Misappropriation of the University's Inventions

31. Upon information and belief, during Robl's employment at the University and since the end of Robl's employment at the University, Robl and Collas participated in the formation and/or operation of a series of companies known as Hematech, Nucleotech, and/or Aurox, which have as their business purpose, at least in part, the commercialization of inventions rightfully owned by the University, including Invention Disclosures UMA 99-19 and UMA 01-02. Upon further information and belief, Hematech, Nucleotech, and Aurox are commonly

owned and/or controlled entities, in which defendants Robl and Collas have a direct financial interest.

32. Upon information and belief, James Barton is the CEO, Director and Co-Founder of Hematech LLC, a Delaware limited liability corporation, and defendant Robl is the President, Chief Science Officer, Director and Co-Founder of Hematech LLC. Upon information and belief, Hematech maintains a place of business in the Commonwealth of Massachusetts.

33. Upon information and belief, James Barton is the CEO of Nucleotech LLC, a Delaware limited liability company, defendant Robl is the President of Nucleotech LLC, and defendant Collas is the Chief Science Officer of Nucleotech LLC.

34. Upon information and belief, James Barton is the CEO of Aurox LLC, and defendants Robl and Collas are engaged in scientific research on behalf of Aurox. Aurox has purported to license to Hematech certain cloning and cell reprogramming techniques that are owned by the University under Robl's and Collas' agreements with the University.

35. On September 25, 2000, defendant Robl left his employment at the University.

36. On December 22, 2000, without the University's knowledge or permission, a United States provisional patent application was filed, serial number 60/258,151 and titled "Methods for Cloning Mammals Using Reprogrammed Donor Chromatin," which names Robl and Collas as inventors. This provisional application was later converted to a United States utility application 10/032,191, and is now under examination in the United States Patent Office. This application is, upon information and belief, assigned to Hematech. The December 22, 2000, provisional application and the corresponding utility application are collectively referred to here as the "Cloning Mammals application."

37. On December 22, 2000, without the University's knowledge or permission, a United States provisional patent application was filed, serial number 60/258,152 and titled "Methods for Altering Cell Fate," which names Robl and Collas, among others, as inventors. This provisional application was later converted to a United States utility application serial

number 10/015,824, and is now under examination in the United States Patent Office (collectively referred to as the "Cell Fate application"). Upon information and belief, the Cell Fate application is assigned to Nucleotech.

38. On December 28, 2000, Nucleotech LLC was formed.

39. In a letter dated January 30, 2001, Barton, on behalf of Hematech, wrote to E. Bradley Moynahan, Ph.D., Assistant Vice Chancellor and Director of CVIP. Barton wrote that Hematech had filed a provisional patent application entitled "Methods for Cloning Mammals Using Reprogrammed Donor Chromatin" which named Robl and Collas as inventors. No copy of the patent application was included with the letter. Barton stated that Robl and Collas had assigned their rights in the patent application to Hematech. Barton stated the position of Hematech's counsel that the University had no ownership interest in the application.

40. Barton did not inform the University in his January 30, 2001, letter or at any later time that the Cell Fate application had been filed.

41. The Cloning Mammals and Cell Fate applications disclose and describe the inventions of Invention Disclosures UMA 99-19 and UMA 01-02, which are owned by the University (the "University Inventions").

42. Hematech, Nucleotech, and/or Aurox have, upon information and belief, offered to license the University Inventions to third parties, even though the University is the rightful owner of these inventions and has the sole right to grant licenses. Upon further information and belief, Hematech, Nucleotech, and/or Aurox, under the terms of the proposed licenses, have refused to warrant title to the licensed technology to their licensees and have imposed on their prospective licensees the risk of claims of ownership by the University, demonstrating their actual notice and knowledge of the University's claim of ownership rights.

43. On October 28, 2003, a Business Wire news story described the nature of Aurox' relationship to Hematech as well as Hematech's commercialization of the University Inventions

(Chromatin Transfer Promises to Improve Survival, Efficiency in Cattle Cloning, Journal Reports, Exhibit 4):

Aurox' development of the chromatin transfer technology has been supported by Hematech LLC, which holds a license from Aurox to apply chromatin transfer for the production of cloned calves that produce human polyclonal antibodies for potential therapeutic and biodefense applications. Dr. James Robl, President and Chief Scientific Officer at Hematech and an Aurox study investigator commented, "The chromatin transfer technique has helped advance Hematech's success in developing our antibody production system. Our ability to reliably and efficiently produce cows that generate our human antibody product will be a great boon as we grow our commercial operations."

The article goes on to quotes defendant Collas, who describes "chromatin transfer" that results in "reprogrammed cells" that develop into "cloned embryos that more closely resemble normal embryos" with "greater survival of cloned calves" (emphasis supplied):

"This journal report demonstrates that cloned animals, such as calves, can be reliably produced via in vitro manipulation of nuclei afforded through **chromatin transfer**," said Philippe Collas, Ph.D., lead investigator of the Aurox study and Professor at the Institute of Medical Biochemistry, University of Oslo. "We may be able to determine if and how the chromatin is 'repackaged' when nuclei and **cells are functionally reprogrammed** and identify which molecules do the job. And importantly, by using chromatin transfer to create **cloned embryos that more closely resemble normal embryos**, we reported a trend towards lessening the number of tries needed to produce a viable pregnancy in cattle, and **greater survival of the cloned calves** at one month after birth."

44. In Invention Disclosure UMA 01-02, prepared by Robl in July 2000 and listing both Robl and Collas as inventors, Robl described the invention as follows:

"The invention consists of the use of cytoplasmic extracts, either whole, partially purified for enrichment in specific factors or modified with the addition of specific components, for **the reprogramming of donor nuclei** for nuclear transplantation. . . . A problem with current nuclear transfer systems is that **the survival of the cloned embryos and fetuses is low**. One possible reason is that the donor nucleus is not capable of supporting **normal development in all embryos**. . . . Therefore, one approach to using a cytoplasmic extract for **reprogramming** is to isolate nuclei from a donor cell population in mass, incubate the isolated nuclei in a

cytoplasmic extract from metaphase cells and incubate until the nuclei have formed **condensed chromatin**. **The clumps of chromatin can then be injected** into enucleated oocytes for development as a nuclear transplant embryo.”

45. The recent news report regarding Aurox’ and Hematech’s research describes the same approach – cell reprogramming via condensed chromatin transfer – to the same problem – low survival rates of cloned embryos and fetuses – as defendant Robl described and disclosed in the Invention Disclosure UMA 01-02 and demonstrates that defendants Robl and Collas are exploiting the University Inventions for their own commercial advantage and in violation of their obligations to the University.

46. Upon information and belief, when defendant Robl left the University, he took his laboratory notebooks that recorded his research and results and did not leave copies with the University. These notebooks belong to the University under the Participation Agreements signed by defendants and the Intellectual Property Policy of the University. Upon information and belief, Collas retains the only copy of any laboratory notebooks or other documentation of his University-supported research. Under the Intellectual Property Policy, the University has a right to a copy of all documentation relating to University research. The defendants are obligated to provide the University with a complete copy of all documentation relating to their research at the University, including laboratory notebooks, data, test results, reports, and electronic mail.

47. Unless the University is declared to be the owner of the University Inventions, the University’s exclusive ownership rights in this unique property will be irreparably harmed as the University will be unable to prevent defendants Robl and Collas, and third parties such as Hematech, Nucleotech, Aurox, or others purporting to take rights from defendants Robl and Collas, from employing the methods of the University Inventions, from making, using, offering to sell or selling, or importing into the United States the University Inventions, and from licensing others to use the University Inventions. Furthermore, the University will be unable to

fully perform its obligations to third parties, including ACT, to grant rights to the University Inventions under the existing agreements with these parties.

48. The Cell Fate application was published in the United States on October 3, 2002. The Cloning Mammals application was published in the United States on March 6, 2003. Upon information and belief, defendants have engaged in other conduct, such as publication of technical articles, press releases, seminars and other disclosures, which constitute publication of the subject matter of the inventions in Invention Disclosures UMA 99-19 and 01-02.

49. Because of defendants' actions resulting in publication of the University Inventions, unless the University is declared to be the owner of the Cloning Mammals and Cell Fate applications to the full extent of the University Inventions, the University will be unable, as a matter of law, to pursue the full patent protection to which it is entitled.

Count I

(Declaratory Judgment, M.G.L. c.231A)

50. Plaintiff repeats and incorporates by reference the allegations of paragraphs 1 through 49, above.

51. Pursuant to the University Intellectual Property Policy and the UMass Participation Agreements signed by defendants Robl and Collas, defendants agreed to assign to the University all right, title and interest in Invention Disclosures UMA 99-19 and UMA 01-02. The University thus owns all worldwide right, title and interest in these inventions.

52. The University Intellectual Property Policy and UMass Participation Agreements constitute binding promises to assign Invention Disclosures UMA 99-19 and UMA 01-02 and any and all patent applications incorporating these inventions to the University, and the defendants therefore are legally bound to assign the Cloning Mammals and Cell Fate applications to the University to the full extent of the inventions owned by the University.

53. Defendants Robl and Collas, by their statements, actions, and omissions, have purported to assert ownership of, to grant rights in, and to commercialize the University Inventions, in violation of their obligations to the University and to the detriment of the University's and the Commonwealth's exclusive legal ownership rights in this property. Upon information and belief, defendants' assertions of ownership of the University Inventions are without any good faith basis in fact or law.

54. Pursuant to M.G.L. c.231, Section 1, an actual controversy exists between the parties, and the University is entitled to a declaration that the University is the sole legal owner of all worldwide right, title and interest in and to the University Inventions, including but not limited to the inventions of Invention Disclosures UMA 99-19 and UMA 01-02 and the corresponding subject matter of the Cloning Mammals and Cell Fate applications, and any and all patent applications, including foreign patent applications, claiming priority thereon, and all patents issuing, on the foregoing.

Count II

(Breach of Contract: Specific Performance, Injunctive Relief, and Damages)

55. Plaintiff repeats and incorporates by reference the allegations of paragraphs 1 through 54, above.

56. The University has substantially performed its obligations under its agreements with defendants Robl and Collas that are conditions precedent to their performance.

57. Defendants Robl and Collas are in material breach of their contractual obligations to the University as a result of at least:

- (a) purporting to assign their right, title and interest in the subject matter of the University Inventions to third parties, including Hematech, Nucleotech and/or Aurox;
- (b) permitting the filing of patent applications disclosing the subject matter of the University Inventions;

- (c) publishing the subject matter of University Inventions; and
- (d) commercializing the subject matter of University Inventions.

58. Defendant Collas is additionally in material breach of his obligations to the University as a result of refusing to sign Invention Disclosure 01-02 and demanding additional compensation for Invention Disclosure 01-02.

59. Defendant Robl's and Collas' material breaches are resulting in and will continue to result in damage to the University's exclusive patent ownership rights and commercial and financial interests, including damage to the University's obligations to third parties with an interest in the University Inventions.

60. Defendant Robl's and Collas' statements, actions, and omissions constitute a repudiation of their obligation to perform, rendering futile any present request to them to assign their rights in University-owned inventions.

61. The subject matter of the agreements between the University and defendants Robl and Collas is unique.

62. Under the UMass Participation Agreements, the University is entitled to specific performance of Robl's and Collas' obligation to assign their right, title and interest in the subject matter of the inventions in Invention Disclosures UMA 99-19 and UMA 01-02, and the corresponding subject matter and rights in the Cloning Mammals and Cell Fate applications, and the corresponding subject matter of and rights in any and all related patent applications, including foreign patent applications, claiming priority thereon, and all patents issuing, on the foregoing.

63. As the sole and exclusive owner of the rights in the inventions disclosed in Invention Disclosures UMA 99-19 and UMA 01-02 and all corresponding patent applications, the University is entitled to an order against defendants Robl and Collas and any person or entity who is acting in active concert or participation with them, including but not limited to Barton, Hematech, Nucleotech, and Aurox,

(a) enjoining them from advertising, offering, or entering into any agreements with third parties purporting to grant rights under the University Inventions, including licensing of the inventions;

(b) enjoining them from engaging in any commercial activity relating to the subject matter of the University Inventions and imposing a constructive trust upon all proceeds of such activities for the benefit of the University;

(c) requiring them to identify the status of the Cell Fate and Cloning Mammals applications, including all jurisdictions in which patent protection has been sought, all correspondence with governing patent offices to date, and to turn over to the University the prosecution and control of the Cell Fate and Cloning Mammals applications and imposing a constructive trust upon the prosecution and control of the Cell Fate and Cloning Mammals applications for the benefit of the University;

(d) requiring them to disclose all rights that they have purported to grant in the University Inventions, including the identity of any third parties to whom rights have purportedly been granted;

(e) requiring them to notify any third party to whom they have made any representation of ownership of the University Inventions of the pendency of this action and of the University's claim to the sole and exclusive ownership of the University Inventions;

(f) upon the request of the University of Massachusetts, provide the reasonable assistance required under their agreement with University to the University or its nominee in prosecuting the foregoing patent applications and enforcing any patents that issue thereon; and

(g) requiring them to turn over to the University copies of all laboratory notebooks, data, documents, materials, emails, and tangible things in their possession relating to the University Inventions.

Count III

(Intentional Interference with Contract and Prospective Contractual Relations)

64. Plaintiff repeats and incorporates by reference the allegations of paragraphs 1 through 63, above.

65. Upon information and belief, defendants Robl and Collas had actual knowledge that the University and ACT had entered into licenses for the University Inventions and were negotiating future licenses for the University Inventions.

66. Defendants Robl and Collas, by virtue of their wrongful statements, actions, and omissions, all as alleged in the Complaint above, used improper means, with an improper motive, to intentionally interfere with the business relationship between ACT and the University.

67. As a direct and proximate result of the tortuous conduct of defendants Robl and Collas, the University has been forced to bring this action and incur substantial time and expense, including attorney's fees, to preserve and maintain its business obligations to ACT. The University is further threatened with the loss or disruption of its business relationship with ACT and with other third parties to whom it licenses technology, damage to its previously good reputation for the efficient and effective administration of its intellectual property rights, all to the commercial detriment of the University and the Commonwealth of Massachusetts.

68. The University has no adequate remedy at law and the harm to the University and the Commonwealth will continue unless defendants' tortuous conduct is enjoined.

Count IV

(Conversion)

69. Plaintiff repeats and incorporates by reference the allegations of paragraphs 1 through 68, above.

70. Defendants Robl and Collas have retained sole possession of the only copies of laboratory notebooks, records and documents, or copies thereof, and materials and substances,

including but not limited to materials and substances relating to the University Inventions, which are University property and which defendants Robl and Collas are obligated to make available to the University, and thus have converted such tangible property to their own use.

71. The conduct of Robl and Collas in converting University property to their own use has been intentional and wrongful.

72. The University and the Commonwealth of Massachusetts have suffered damages as the result of the unlawful sole retention of possession of the foregoing because such actions, among other things, have impeded or frustrated their ability to file, support, prosecute, and obtain issuance of patents that fully describe and disclose the University Inventions. The University and the Commonwealth have been, and will continue to be, irreparably injured by deprivation of possession of the foregoing, and have no adequate remedy at law.

Count V

(Breach of Duty)

73. Plaintiff repeats and incorporates by reference the allegations of paragraphs 1 through 72, above.

74. As faculty members with significant and unique technical expertise and academic autonomy, defendants Robl and Collas stood in a special relationship of trust and confidence to the University with respect to inventions that they made with University support, funds, facilities, equipment, and materials.

75. At the time the inventions of Invention Disclosures UMA 99-19 and 01-02 were made, defendants Robl and Collas were uniquely in possession of the data, documentation, laboratory notebooks, and other information from which the University could assess the value and patentability of the inventions

76. Under the Intellectual Property Policy, defendants Robl and Collas agreed that, for any Intellectual Property which they asserted was made without significant use of University

resources, that they would “disclose to the University any Intellectual Property that closely resembles a specific research project at the University, together with an explanation that the Intellectual Property did not arise through the use of University resources.” (Exhibit 1, Section III (B)).

77. Defendants Robl and Collas were further aware and agreed that Intellectual Property was highly valuable, confidential information that was not to be disclosed outside the University absent the University’s full opportunity to assess the value and patentability of such Intellectual Property.

78. The University relied upon defendants Robl and Collas, by virtue of their unique position, access to information, knowledge, skill and expertise, to act in good faith and with complete candor and undivided loyalty in connection with the University’s Intellectual Property Policy to protect the University’s interests in its Intellectual Property.

79. Defendants Robl and Collas owed a duty of loyalty to the University and were required to protect the interests of the University with respect to the University Inventions.

80. Defendants Robl and Collas breached their duty of loyalty to the University and abused their unique position of trust and confidence by, among other things, planning to misappropriate the University Inventions, in the case of defendant Collas, refusing to sign Invention Disclosure 01-02, misappropriating the University Inventions, interfering and impeding the University’s ability to protect its Intellectual Property by taking and retaining the only copies of laboratory notebooks that evidenced their research, related documents, substances, and materials, filing patent applications and/or permitting others to file patent applications disclosing the University Inventions without the University’s knowledge or permission, and purporting to assign or grant rights in the University Inventions to third parties.

81. The University and the Commonwealth have been irreparably harmed by defendants’ breach of duty and such harm will continue unless defendants are enjoined from their wrongful conduct. In addition, the University and the Commonwealth have suffered

damages as a result of defendants' breach of duty, including but not limited to the costs of this action, including attorney's fees, to enforce the University's rights against defendants.

Count VI

(Breach of the Covenant of Good Faith and Fair Dealing)

82. Plaintiff repeats and incorporates by reference the allegations of paragraphs 1 through 81, above.

83. The wrongful actions, statements, and omissions of defendants Robl and Collas alleged above constitute material breaches that go to the essence of the agreements between the University and defendants and which deny the University the intended and reasonably expected fruits of its agreement with defendants.

84. Defendants' action constitute a breach of the covenant of good faith and fair dealing that is implied in every contract in the Commonwealth.

85. The University and the Commonwealth are damaged by defendants' breach of the covenant of good faith and fair dealing and are entitled to their reasonable expectation under the contract.

WHEREFORE, Plaintiff University respectfully prays that this court:

A. Enter judgment in favor of the University and against defendants Robl and Collas on each Count of the Complaint.

B. Declare that the University is the sole and exclusive legal and beneficial owner of the University Inventions, including but not limited to the inventions of Invention Disclosures UMA 99-19 and UMA 01-02 and the corresponding subject matter of and rights in the Cloning Mammals and Cell Fate applications, and the corresponding subject matter of and rights in any and all patent applications, including foreign patent applications, claiming priority thereon, and all patents issuing, on the foregoing and that any rights purported to be granted by or through defendants are void.

C. Order the defendants to specifically perform their obligation to assign their right, title and interest in the subject matter of the inventions in Invention Disclosures UMA 99-19 and UMA 01-02, and the corresponding subject matter of and rights in the Cloning Mammals and Cell Fate applications, and the corresponding subject matter of and rights in any and all patent applications, including foreign patent applications, claiming priority thereon, and all patents issuing, on the foregoing.

D. Issue a preliminary and permanent injunction against defendants Robl and Collas and any person or entity that is acting in active concert or participation with them, including but not limited to Barton, Hematech, Nucleotech, and Aurox,

(a) enjoining them from advertising, offering, or entering into any agreements with third parties purporting to grant rights under the University Inventions, including licensing of the inventions;

(b) enjoining them from engaging in any commercial activity relating to the subject matter of the University Inventions and imposing a constructive trust upon all proceeds of such activities for the benefit of the University;

(c) requiring them to identify the status of the Cell Fate and Cloning Mammals applications, including all jurisdictions in which patent protection has been sought, all correspondence with governing patent offices to date, and to turn over to the University the prosecution and control of the Cell Fate and Cloning Mammals applications and imposing a constructive trust upon the prosecution and control of the Cell Fate and Cloning Mammals applications for the benefit of the University;

(d) requiring them to disclose all rights that they have purported to grant in the University Inventions, including the identity of any third parties to whom rights have purportedly been granted;

(e) requiring them to notify any third party to whom they have made any representation of ownership of the University Inventions of the pendency of this action and of the University's claim to the sole and exclusive ownership of the University Inventions;

(f) upon the request of the University of Massachusetts, provide the reasonable assistance required under their agreement with University to the University or its nominee in prosecuting the foregoing patent applications and enforcing any patents that issue thereon; and

(g) requiring them to turn over to the University copies of all laboratory notebooks, data, documents, materials, emails, and tangible things in their possession relating to the University Inventions.

E. Award Plaintiff University of Massachusetts its reasonable expectation damages as a result of defendants' breaches of their agreements with the University, all damages for injury proximately caused by defendants' tortious conduct, and its costs of the action, and a reasonable attorney's fee.

F. Award Plaintiff University of Massachusetts such further relief as the Court deems just and proper.

Dated: January 30, 2004

Respectfully submitted,

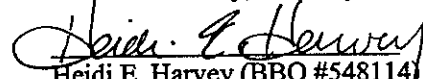
University of Massachusetts

By its attorneys:

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HEREBY ATTEST AND CERTIFY ON
MAY 21, 2004

THAT THE
FOREGOING DOCUMENT IS A FULL,
TRUE AND CORRECT COPY OF THE
ORIGINAL ON FILE IN MY OFFICE,
AND IN MY LEGAL CUSTODY.

21

MICHAEL JOSEPH DONOVAN
CLERK / MAGISTRATE
SUFFOLK SUPERIOR CIVIL COURT
DEPARTMENT OF THE TRIAL COURT

BY 

ASSISTANT CLERK.

DOC. T96-040 *Passed by the BoT 4/2/97 (UMA, UMB)*

**THE UNIVERSITY OF MASSACHUSETTS AMHERST
INTELLECTUAL PROPERTY POLICY**

The prompt and open dissemination of the results of research and creative work among scholars and, eventually, to the public at large is essential to the University's mission of education and research. The commercial development and distribution of the results of research and creative work to benefit the inventor or creator and the economy is part of the University's mission of public service. This Policy is intended to facilitate the commercial development of intellectual property arising at the University and to provide an incentive to University inventors or creators to participate in such development while acknowledging the University's primary goal of the discovery and dissemination of knowledge.

I. Definitions

As used in this Policy, the following words shall have the following meanings:

- A. Confidential Information - Information that is received by a Covered Individual from a third party under an express or implied obligation of confidence.
- B. Covered Individuals - All staff, faculty members, students, adjunct professors in residence, and any other individuals associated with the University.
- C. Copyrightable Work - A creative work that is protectable under the copyright laws of the United States or other countries. Copyright protection is available for most literary, musical, dramatic, and other types of creative works, including, for example, computer software, teaching materials, multimedia works, proposals, and research reports.
- D. CVIP - The University Office of Commercial Ventures and Intellectual Property, which has primary responsibility for administering the development and commercialization of Intellectual Property through licensing or other arrangements.
- E. Director - The Executive Director of the CVIP.
- F. Evaluation Committee or Committee - One of several University committees, each with a particular area of technical expertise, that advises the CVIP and Vice Chancellor for Research in evaluating Inventions, Tangible Research Materials, and Copyrightable Works.
- G. Exempted Scholarly Work - A Scholarly Work that falls within certain categories of Copyrightable Works for which academic institutions have historically waived any ownership interest in favor of the author. The University currently recognizes the following categories of Exempted Scholarly Works: textbooks, class notes, research proposals, classroom presentation and instruction, research articles, research monographs, student theses and dissertations, paintings, drawings, sculpture, musical compositions and performances, dramatic works and performances, poetry, and popular fiction and nonfiction. As modern types of works become clearly established as Scholarly Works, so that individual consideration is no longer deemed necessary, the President may expand this list of Exempted Scholarly Works beyond these historically established categories. Except for the limited circumstances described in Sections III.C.1.b. and III.C.1.c. below, Exempted

Scholarly Works need not be disclosed to the University and the University automatically waives any ownership interest in such works.

- H. Intellectual Property - Inventions, Copyrightable Works, and Tangible Research Materials.
- I. Invention - A discovery or development that may be protectable under the patent laws of the United States, the United States Plant Variety Protection Act, or equivalent laws in other countries.
- J. Outside Researcher - An individual who performs or directs research for an organization other than the University.
- K. President - The President of the University or his or her designee.
- L. Public Disclosure or Publicly Disclosed - Any written or oral disclosure of an Invention or Copyrightable Work to any person not under a contractual or fiduciary obligation of confidentiality to the University.
- M. Scholarly Work - A Copyrightable Work that has the primary goal of disseminating academic or scholarly knowledge or is a work of artistic expression. As described in Section III.C. below, whether a Copyrightable Work is a Scholarly Work will be determined by the Director and Vice Chancellor for Research on a case-by-case basis (except that Exempted Scholarly Works are automatically considered Scholarly Works). The University waives all ownership interests in Scholarly Works except in the two circumstances described in Sections III.B.2. and III.B.3.
- N. Tangible Research Materials or Materials - Tangible biological, chemical, and physical materials or equipment. Examples include cell lines, antibodies, DNA or RNA, chemical samples, plasmids, and prototypes.
- O. Vice Chancellor for Research - The Vice Chancellor for Research at each campus, or where no such person exists, the Provost (or their designees).

II. Scope

A. Persons Subject to the Policy

All Covered Individuals are subject to this Policy.

B. Types of Intellectual Property Covered by the Policy

This Policy addresses the three categories of Intellectual Property (Inventions, Copyrightable Works, and Tangible Research Materials) as well as Confidential Information. The President shall have authority to designate additional types of Intellectual Property under this Policy.

III. Policy

A. Participation Agreement

The University has adopted a Participation Agreement, attached as Exhibit A, that confirms acceptance of this Policy by Covered Individuals and assigns to the University all rights in any Intellectual Property in which the University asserts ownership (as described below).

1. Students - Students must sign the Participation Agreement prior to employment by the University in any research-related position. Such employment would include, for example, an arrangement whereby a student is funded as a research assistant under a government research grant or an industry-sponsored research agreement with the University. Students may also be required to sign the Participation Agreement under other appropriate circumstances, as determined by the Vice Chancellor for Research (for example, as required by the terms of a research grant).
2. Individuals Other Than Students - All Covered Individuals other than students must sign the Participation Agreement. The University will confirm that a valid Participation Agreement is on file before a Covered Individual receives any University-administered funds under a research grant or agreement. The University may also refuse to process any agreement involving that Covered Individual to the extent that the agreement would grant rights in Intellectual Property to an outside party.

B. Ownership of Intellectual Property

Any Covered Individual who invents, creates, or discovers any Intellectual Property will own all rights to such Intellectual Property except as follows:

1. Use of University Resources - The University will own any Intellectual Property (other than Exempted Scholarly Works) that is made, discovered, or created by any Covered Individual who makes significant use of University resources (including University-administered funds or University-funded time, facilities, or equipment) in connection with the development of such Intellectual Property. Use of library facilities, facilities available to the general public, and occasional use of office equipment and office staff will not ordinarily be considered "significant use" of University facilities and equipment. In addition, faculty members will not be considered to have made significant use of University resources if (i) the faculty member receives advance written approval of the proposed use from the Department Chair, (ii) academic uses of facilities and equipment have priority, (iii) the faculty member compensates the University for the fair market value of the facilities and equipment (as actually charged by the University to outside users or, in the absence of such documentation, as determined by the Vice Chancellor for Research), (iv) the faculty member is not using University-committed time because the activities are permitted Outside Activities (under the University Policy on Faculty Consulting and Outside Activities), and (v) the faculty member does not use any University-provided funds or University-administered funds in connection with the activity.

If a Covered Individual makes, creates, or discovers Intellectual Property without significant use of University resources, but the Intellectual Property closely resembles a specific research project that the Covered Individual has conducted at the University, it may appear that the Intellectual Property arose with use of University resources. Under these circumstances, the University and the Covered Individual (or a company for whom the Covered Individual consults) could later argue about ownership of the Intellectual Property because the University might reasonably believe that University resources were in fact used. Such arguments usually arise after the Intellectual Property has gained substantial commercial value. In order to avoid these potentially litigious situations, the University requires Covered Individuals to disclose to the University any Intellectual Property that closely resembles a specific research project at the University, together with an explanation that the Intellectual Property did not arise through use of University resources. The University may ask the Covered Individual for documentation supporting the claim that there was no significant use of University resources. As

described below, if there was no significant use of University resources, the University will give the Covered Individual a written acknowledgment that the University has no ownership interest in that Intellectual Property.

2. University-Commissioned Works - The University will own any Intellectual Property (including Exempted Scholarly Works) that is made, discovered, or created by a Covered Individual who is specifically hired or commissioned by the University for that purpose, unless otherwise provided by written agreement between such individual and the University.
3. Intellectual Property Subject to Contractual Obligations - Ownership of any Intellectual Property (including Exempted Scholarly Works) that is made, discovered, or created in the course of research funded by a sponsor pursuant to a grant or research agreement, or which is subject to a materials transfer agreement, confidential disclosure agreement or other legal obligation affecting ownership, will be governed by the terms of such grant or agreement, as approved by the University, although the University will ordinarily claim ownership.
4. Student Works
 - a. Generally - As with other Covered Individuals, students shall own any Intellectual Property that they make, discover, or create in the course of research (e.g., thesis or dissertation research) unless (i) the student received financial support from the University in the form of wages, salary, stipend, or grant funds for the research, (ii) the student made significant use of University resources (including University-administered funds or University-funded time, facilities, or equipment) in connection with the research, or (iii) the research was funded by a sponsor pursuant to a grant or sponsored research agreement or is subject to a materials transfer agreement, confidential disclosure agreement, or other legal obligation that restricts ownership of Intellectual Property.
 - b. Theses and Dissertations - The texts of all student theses and dissertations, and derivative works of these works, are considered Exempted Scholarly Works; therefore, the student will own copyright to the Scholarly Work (unless Sections III.B.2. or III.B.3. apply), subject to a royalty-free license to the University to reproduce and publish the Scholarly Work. As described below, students are allowed to publish their theses and dissertations unless they have agreed in writing to restrictions that preclude or delay publication.

Under certain circumstances, as described in Section III.C.3. below, the University will relinquish its rights in Intellectual Property to the inventor or creator of that Intellectual Property at his or her request.

C. Administrative Procedures - Inventions and Copyrightable Works

A primary goal of the University is the discovery and free dissemination of knowledge for the benefit of the public. The University recognizes, however, that in certain instances the public will only benefit from knowledge that is protected under the patent or copyright laws, which provide an incentive for economic development of that knowledge. The University therefore requests that all Covered Individuals disclose Inventions and Copyrightable Works (other than Exempted Scholarly Works) promptly, in order to

allow the University an opportunity to evaluate their commercial potential, and to preserve or enhance their value by filing a patent application or obtaining a copyright registration. The University has established the following procedures in order to accomplish the dual objectives of disseminating knowledge and maximizing the economic value of that knowledge.

1. Disclosure to the University - Disclosure forms should be submitted to the CVIP or the Vice Chancellor for Research. The Vice Chancellor for Research and the CVIP will exchange copies of all disclosure forms that each receives. The Vice Chancellor for Research will also make available to the campus Office of Grants and Contracts appropriate information to permit required disclosures to research sponsors (e.g., federal agencies). The CVIP will make available appropriate disclosure forms. The treatment of different categories of Intellectual Property is set forth below.

- a. Intellectual Property Developed with University Resources or Closely Resembling a Specific University Research Project - All Covered Individuals are encouraged to disclose promptly all Inventions and Copyrightable Works (except Exempted Scholarly Works) that (i) are developed with significant use of University resources or (ii) closely resemble a specific research project in which that faculty member is engaged at the University (see Section III.B.1. above). Although the disclosure of such Inventions and Copyrightable Works is voluntary, if the Covered Individual intends to commercialize such Intellectual Property, disclosure is required reasonably before the Covered Individual takes any action to commercialize such Intellectual Property. Examples of commercial actions include, without limitation, seeking patent or copyright protection, commencing discussions with potential investors or licensees, or transferring the Intellectual Property to a third party.

If a Copyrightable Work is an Exempted Scholarly Work, no disclosure is required under any circumstances. In other cases in which a Covered Individual desires treatment of a Copyrightable Work as a Scholarly Work, the Covered Individual should submit to the CVIP or Vice Chancellor for Research, in addition to the disclosure form, a request for treatment of the work as a Scholarly Work and a brief explanation of why the work should be a Scholarly Work.

In the case of an Invention or Copyrightable Work that the Covered Individual claims is not subject to University ownership because the Intellectual Property was developed without significant use of University resources, the Covered Individual should submit to the CVIP or Vice Chancellor for Research, in addition to the disclosure form, a request for confirmation of individual ownership together with documentary evidence which clearly establishes that fact.

- b. University-Commissioned Works - In the case of Inventions and Copyrightable Works (including Exempted Scholarly Works) that a Covered Individual is specifically hired or commissioned by the University to develop (see Section III.B.2. above), disclosure of the Intellectual Property is required unless otherwise provided by written agreement between such individual and the University.
- c. Intellectual Property Subject to Contractual Obligations (e.g., Sponsored Research Agreements) - In the case of Inventions and Copyrightable Works (including Exempted Scholarly Works) developed in the course of research funded by a

sponsor pursuant to a grant or research agreement, or which is subject to a materials transfer agreement, confidential disclosure agreement or other legal obligation requiring disclosure, the disclosure of such Intellectual Property will be governed by the terms of such grant or agreement, as approved by the University, if such terms differ from this Policy.

2. Evaluation and Disposition of Disclosures - The Director and the Vice Chancellor for Research will review, evaluate, and make a disposition of all disclosure forms, and will promptly notify the Covered Individual of their disposition. The evaluation and disposition of a disclosure will be completed as soon as possible, but for Inventions (and computer software) ordinarily no later than ninety (90) days, and for Copyrightable Works (other than software) ordinarily no later than thirty (30) days after the CVIP or the Vice Chancellor for Research receives a complete and accurate disclosure form and any other information that the CVIP or the Vice Chancellor for Research requests in order to make an informed evaluation of an Invention or Copyrightable Work. Disclosure forms will be evaluated for one of more of the following dispositions, subject to the appeals process described in Section III.C.4. below:

- a. Scholarly Work - In the case of a Copyrightable Work that is claimed as a Scholarly Work (but is not an Exempted Scholarly Work), the Director and the Vice Chancellor for Research will decide whether that work is in fact a Scholarly Work.
- b. No Use of University Resources - In the case of an Invention or Copyrightable Work that the Covered Individual claims is not subject to University ownership because the Intellectual Property was developed without significant use of University resources, the Director and the Vice Chancellor for Research will decide whether there was in fact significant use of University resources.
- c. Evaluation of Commercial Potential: The Evaluation Committees - In the case of an Intellectual Property that the Covered Individual discloses for possible commercialization by the University, the Director and the Vice Chancellor for Research will determine its commercial potential. To assist in this determination, the Director and the Vice Chancellor for Research may consult with patent or copyright counsel and outside experts in particular fields.

In addition to these resources, the Director and the Vice Chancellor for Research may seek the advice of various Evaluation Committees with expertise in various fields of research, which Committees the President shall have authority to establish at his or her discretion. Each Committee will be composed of faculty members with relevant expertise, appointed by the Chancellors in consultation with the Director and the Vice Chancellors for Research; a representative from the CVIP; and a Committee Chair, selected by vote of the whole Committee. The Director may invite to any Committee meeting one or more individuals from outside the University with relevant industry experience to advise the Committee.

All intellectual property disclosures shall be considered confidential by the University. The University will inform all members of the Evaluation Committee and all outside experts that the information contained in the disclosures is confidential, and that breach of confidentiality is a violation of University policy that could lead to personnel or other available sanctions or actions and will obtain written acknowledgment of such obligations from these individuals. The

Evaluation Committees will establish recusal procedures for members who have a conflict of interest in a particular case.

- d. Intellectual Property Subject to Contractual Obligations (e.g., Sponsored Research Agreements) - In the case of Inventions or Copyrightable Works (including Exempted Scholarly Works) that arise in the course of research funded by a sponsor under a grant or research agreement, or which are subject to a materials transfer agreement, confidential disclosure agreement, or other legal obligation affecting evaluation of disclosures, the evaluation process will be governed by the terms of such grant or agreement, as approved by the University, if such terms differ from this Policy.

In the unlikely event that the Director and the Vice Chancellor for Research disagree on the disposition of a disclosed Invention or Copyrightable Work, a final decision shall be made by the President.

3. Request for Relinquishment of Rights - Under certain circumstances, as described below, the University may relinquish its ownership rights in an Invention or Copyrightable Work to the inventor or creator of the Intellectual Property at his or her request.

- a. Intellectual Property Developed With University Resources - The University automatically waives its rights in Exempted Scholarly Works. In all other cases, the University will ordinarily waive its ownership rights in favor of the inventor or creator of an Intellectual Property if the Covered Individual has made complete and accurate disclosure of such Intellectual Property in accordance with this Policy and the Director and Vice Chancellor for Research have determined that the Intellectual Property comes under one or more of the following categories (as described in detail in this Policy):

- Copyrightable Work that is a Scholarly Work
- Intellectual Property developed without significant use of University resources
- Intellectual Property that the University has decided not to commercialize
- Intellectual Property that the University ceases to use diligent efforts to commercialize

- b. University-Commissioned Works - The University will not ordinarily waive its ownership rights in any Intellectual Property (including Exempted Scholarly Works) that is developed by a Covered Individual who is specifically hired or commissioned by the University for that purpose, unless otherwise provided by written agreement between such individual and the University.

- c. Intellectual Property Subject to Contractual Obligations - In the case of Intellectual Property (including Exempted Scholarly Works) that is developed in the course of research funded by a sponsor pursuant to a grant or research agreement, or which is subject to a materials transfer agreement, confidential disclosure agreement, or other legal obligation affecting ownership, the relinquishment of any University rights in the Intellectual Property will be governed by the terms of the relevant grant or agreement, as approved by the University, if such terms differ from this Policy. This includes research carried out by faculty members within a center of the University when a separate agreement with the University, approved by the Vice Chancellor for Research

and the Director, has been executed by the center. Before a change is made in an ongoing research contract between the center and an outside entity, the Vice Chancellor for Research will consult with faculty members who participate in the contract. A Covered Individual may need a separate waiver or assignment of rights from the other party in order to acquire complete rights to the Intellectual Property.

If certain Intellectual Property is available for relinquishment by the University (as set forth above), the inventor or creator of the Intellectual Property may request in writing that the Director grant a release or assignment of rights. The Director in consultation with the Vice Chancellor for Research will promptly respond to this request. The University will retain a royalty-free, non-exclusive license to use any such Inventions or Copyrightable Works for academic research and teaching. If the University has incurred expenses to obtain legal protection for Intellectual Property (e.g., patent-related expenses), the University may condition its relinquishment of rights to that Intellectual Property through a contract with the Covered Individual to reimburse the University from commercialization revenues.

4. Appeals - If a Covered Individual disagrees with a decision of the Director and the Vice Chancellor for Research under Section III.C.2., such individual may ask for reconsideration by the appropriate Evaluation Committee. The Committee shall review the matter and make its recommendation to the Director and the Vice Chancellor for Research who shall reconsider the matter.

D. Administrative Procedures - Tangible Research Materials

While potential commercial value should not inhibit the free exchange of University-owned Tangible Research Materials for research purposes, the University nonetheless recognizes that such Materials may have significant commercial value. In addition, Tangible Research Materials received by Covered Individuals may be subject to contractual restrictions that severely limit the use and transfer of such Materials, to the detriment of University researchers. The University has therefore established the following procedures to allow the free exchange of Tangible Research Materials, while at the same time respecting the ownership rights of the University, protecting the rights of its researchers, and limiting the liability of the University and its researchers.

1. Transfer to Outside Researcher for Basic Research - If a Covered Individual desires to transfer Materials to an Outside Researcher for use in internal basic research, and not for the development or sale of commercial products, the Covered Individual must use the appropriate University form of Materials Transfer Agreement ("MTA"), which will be provided by the CVIP together with instructions for the use of each form. The various forms of MTA will establish rights and responsibilities regarding the Materials among the University and the Outside Researcher and his or her employer and will minimize future confusion and controversy regarding the use and transfer of the Materials and ownership of Inventions or Materials based on the supplied Materials. Faculty members (but not other Covered Individuals) are authorized to sign these MTAs on behalf of the University provided that (i) the University-form MTA is not altered or revised in any manner and (ii) a signed original of the MTA is sent to the CVIP when the Materials are sent to the Outside Researcher. Alternatively, CVIP representatives are authorized to approve and sign MTAs, even with revisions. If a Covered Individual is involved in a project that requires frequent exchanges of material with an Outside Researcher, the CVIP representative, in consultation with the General Counsel's office, may develop a

blanket MTA to cover all exchanges between the Covered Individual and the Outside Researcher for a specific period.

If Materials are developed by a Covered Individual in the course of sponsored research, or are otherwise subject to contractual restrictions (e.g., a materials transfer agreement or confidential disclosure agreement), the transfer of such Materials to an Outside Researcher will be governed by the terms of the relevant agreement, if such terms differ from this Policy.

These procedures also apply to students who leave the University and desire to bring with them Materials that they developed or discovered in the course of their work at the University.

2. Transfer for Commercial Use - Materials may not be transferred to any Outside Researcher for any use other than internal basic research unless the Outside Researcher has obtained a license from the University through the CVIP under the procedures set forth in this Policy. Materials with commercial uses should be disclosed to the CVIP or Vice Chancellor for Research in the same manner as Inventions and will be treated in the same manner as Inventions.
3. Receiving Materials from Outside Researchers - If a Covered Individual receives Materials from an Outside Researcher at another organization (non-profit or commercial), the other organization or researcher may impose serious use and transfer restrictions on the Materials and may claim an ownership interest in Inventions, Copyrightable Works, or Materials that arise in the course of research performed with such Materials. For this reason, only CVIP representatives are authorized to approve and sign agreements governing receipt of Materials from other organizations. Covered Individuals are encouraged to consult with the CVIP regarding the restrictions applicable to a particular Material from an Outside Researcher before planning to use that Material in their research. Covered Individuals should be aware that, in some instances, these restrictions may be so onerous (e.g., no publications, assignment of inventions) that the CVIP will require modification of the agreement before approval. The CVIP will make available a University-form MTA for receipt of Materials, although the organization supplying the Materials will usually require use of its own MTA.

If Materials are received by a Covered Individual in the course of sponsored research, the transfer of such Materials will be governed by the terms of the applicable sponsored research agreement, if such terms differ from this Policy.

If any MTA restrictions would apply to research performed by students, the effected students must agree to such restrictions in writing.

4. Administrative Procedures - In instances where the approval and signature of a CVIP representative is required for minor changes in the University form, every attempt will be made to complete this process within three business days. If the approval process extends beyond three business days, the Covered Individual may request the intervention of the Vice Chancellor for Research, who will attempt to expedite the process. For more material changes a CVIP representative in consultation with the General Counsel's office will complete the process as soon as practicable. The Vice Chancellor for Research will maintain a record of any such requests and their disposition.

E. Administrative Procedures - Confidential Treatment of Information

While the academic tradition of free dissemination of knowledge for the public benefit is recognized by the University to be of paramount importance, it may be necessary or desirable, under some circumstances, to restrict disclosure of Confidential Information received from a sponsor company or to delay Public Disclosure of an Invention. The University has developed the following procedures to balance these competing interests. The University will ordinarily not agree to maintain University-generated research results as trade secrets.

1. Guidelines Regarding Public Disclosure of Inventions - Internal disclosure of an Invention to the CVIP or Vice Chancellor for Research will not interfere with the ability to patent the Invention. However, Public Disclosure of an Invention prior to filing for a patent application (even one day before) will preclude the availability of patent protection in most countries. This legal rule applies to any non-confidential written or oral disclosure that describes the Invention (e.g., at a scientific meeting, in a journal, or even in an informal discussion with colleagues outside the University).

Accordingly, the University strongly encourages Covered Individuals to disclose Inventions to the CVIP as soon as possible, and to delay Public Disclosure of the Invention until the evaluation process is completed and a patent application is filed. The CVIP and Vice Chancellor for Research will attempt to minimize delays in publication, but a delay of up to ninety days is often necessary for evaluation. The CVIP and Vice Chancellor for Research will make every effort to expedite the evaluation process when a Covered Individual indicates that there is a compelling need for rapid publication.

During this interim period, an Invention may be safely disclosed outside of the University under the protection of a Confidential Disclosure Agreement ("CDA"), because disclosures made under an appropriate CDA are not considered Public Disclosures. The University therefore recommends that all Covered Individuals use the University-form CDA whenever they disclose information relating to an Invention while the Invention is under evaluation by the University, and the University strongly recommends use of the University-form CDA and consultation with the CVIP if a Covered Individual wishes to disclose an Invention to an Outside Researcher associated with a company or other for-profit organization, or directly to such an organization. The CVIP will make available appropriate forms of CDA. Faculty members have authority to sign the University-form CDA on behalf of the University when they will disclose information (but will not receive information), provided they send a fully signed original of the CDA to the CVIP as soon as possible. Alternatively, CVIP representatives are authorized to approve and sign CDAs on behalf of the University.

Covered Individuals should be aware that Public Disclosure of an Invention prior to completion of the evaluation process and filing of a patent application will adversely affect the commercial value of the Invention and therefore may decrease the likelihood that the University will proceed with commercialization of that Invention.

In the case of an Invention or Copyrightable Work that arises in the course of sponsored research or a grant, or which is subject to a materials transfer agreement (MTA), confidential disclosure agreement, or other contractual restriction affecting Public Disclosure, any restrictions on Public Disclosure will be governed by the terms of the grant or agreement with the other party, as approved by the University. If such

restrictions would prevent or delay the publication of a student thesis or dissertation, then he or she must agree to such restrictions in writing.

2. Receiving Confidential Information from Outside Researchers - If a Covered Individual receives Confidential Information from an Outside Researcher or organization (non-profit or commercial) in relation to research performed by the Covered Individual at the University, the other organization or researcher may impose serious non-disclosure and non-use obligations on the Confidential Information and may claim an ownership interest in Inventions, Copyrightable Works, or Materials that arise in the course of research performed with such Confidential Information. For this reason, only CVIP representatives are authorized to approve and sign CDAs from other researchers or organizations on behalf of the University. The CVIP will make available a University-form CDA for receipt of Confidential Information, although the organization disclosing the Confidential Information will usually require use of its own form of CDA.

When Confidential Information is received by a Covered Individual in the course of sponsored research, the treatment of such Confidential Information will be governed by the terms of the applicable sponsored research agreement, if such terms differ from this Policy.

If any CDA restrictions would apply to research performed by students, the affected students must agree to such restrictions in writing.

F. Administrative Procedures - Sponsored Research with Commercial Organizations

The Vice Chancellor for Research in consultation with the CVIP shall have responsibility for negotiating, executing, and administering funded research agreements between the University and commercial organizations, in accordance with the University policies on sponsored research. The Vice Chancellor for Research may delegate all or some of these responsibilities to the CVIP. CVIP approval is required for any terms of such agreements that affect rights to Intellectual Property (e.g., option rights, license rights, or assignment of ownership). If any restrictions in a funded research agreement (such as publication delays) would apply to research performed by students, the affected students must agree to such restrictions in writing.

G. Commercialization of University-Owned Intellectual Property

The CVIP in consultation with the Vice Chancellor for Research shall have responsibility for commercial development and administration of all University-owned Intellectual Property. This commercial development will ordinarily occur through licensing of Inventions, Copyrightable Works, or Materials to a company. The CVIP will regularly consult with, seek the advice of, and inform the inventor or creator of the Intellectual Property throughout the commercialization process. The University recognizes that involvement of the inventor or creator at every step of the commercialization process is essential for the successful commercialization of Intellectual Property. The CVIP will use diligent efforts to commercialize the Intellectual Property. If the CVIP is successful in its commercialization efforts, the inventor or creator will share in the economic rewards, as will the department and campus.

The University acknowledges the possibility that, in some situations, a Covered Individual and the University may each have ownership of an important element of Intellectual Property. In these situations, the University and the Covered Individual may achieve the highest value only if the combined Intellectual Property is commercialized. This Policy is

not intended to limit the ability of a Covered Individual to contract with the CVIP to accomplish this result, even if the terms of that contract differ from this Policy. In any event, the University and the Covered Individual may each license their respective Intellectual Property separately if they cannot agree on contract terms.

1. Distribution of Non-Equity Revenue Derived from Commercialization - Royalty income and other non-equity revenue derived from the licensing of University-owned Intellectual Property will be distributed at the end of each accounting period as follows:

- a. The University will be reimbursed for any out-of-pocket expenses incurred in obtaining and maintaining patent or copyright protection for a specific item of Intellectual Property, and in evaluating and marketing such Intellectual Property.
- b. The remaining net income will be distributed as follows:
 - Fifteen percent (15%) to the CVIP to fund patents, CVIP operations, and research grants
 - Thirty percent (30%) to the inventor or creator
 - Fifteen percent (15%) to the University entity or entities that provided the resources for development of the Intellectual Property, to fund research and scholarship
 - Forty percent (40%) to the campus of the inventor or creator to fund research and scholarship

In the case of multiple inventors or creators of commercialized Intellectual Property, their shares will be distributed as they unanimously agree or, in the absence of agreement, in equal portions. If multiple departments or programs are involved, their shares will be distributed in the same manner as the distributions to the inventors or creators within such departments or programs.

At the written request of a Covered Individual, the University will furnish an accounting of these expenses and payments, but not more frequently than once each year. Covered Individuals are free to receive additional non-equity compensation directly from a commercial organization (e.g., through a consulting agreement), provided that the Covered Individual complies with other applicable University policies and procedures.

2. Acceptance of Equity - The University may accept an equity interest in a corporation, provided that before the CVIP agrees to accept equity, it must receive the approval of the Vice Chancellor for Research, the Vice President for Economic Development, and the University Treasurer. A Covered Individual must choose either of the following approaches when negotiations commence between the University and the corporation, but the choice is final once selected. If a transaction is completed before the Covered Individual makes a choice of these approaches, the approach in paragraph b shall apply.

- a. Covered Individuals may elect to receive thirty percent (30%) of the equity that the University would otherwise receive in connection with the commercialization of Intellectual Property, in which case the Covered Individual agrees not to receive any other equity interest from the corporation. The Director may waive this restriction in his or her discretion. The University will not receive or hold this equity on behalf of a Covered Individual, but will instruct the corporation to issue the equity directly to the Covered Individual. Covered Individuals must sign any documents required by the corporation (e.g., stock restriction agreements) and must agree to comply with any restrictions placed on the stock

by the corporation. If the corporation refuses to issue the stock directly to the Covered Individual, or if the Covered Individual does not sign the necessary documentation, the University will instruct the corporation to issue the equity directly to the University. In such event, the Covered Individual may still receive equity independent of the University.

- b. Covered Individuals may elect to receive equity directly from the corporation independent of the University, in which case the Covered Individual agrees not to receive any share of equity that the University may receive in that transaction. Covered Individuals selecting this approach may negotiate with the corporation to receive equity by means of, for example, a consulting agreement or founders stock. Such arrangements may be subject to the University Policy on Conflict of Interest Relating to Intellectual Property and Commercial Ventures.
3. Distribution of Equity Revenue Derived From Commercialization - The University will not receive and hold equity until liquidation on behalf of a Covered Individual. Instead, as explained in the preceding section, a Covered Individual may receive equity directly from a company (either together with the University or independent of the University). The equity received by the University in connection with the commercialization of Intellectual Property will be held until liquidation, with the proceeds distributed as follows:
- a. First, to the extent the University is not fully reimbursed for out-of pocket expenses from non-equity revenue, the University will be reimbursed for any remaining out-of-pocket expenses incurred in obtaining and maintaining patent or copyright protection for a specific item of Intellectual Property, and in evaluating and marketing such Intellectual Property.
 - b. The remaining proceeds from equity liquidation will be distributed as follows:
 - Twenty percent (20%) to the CVIP to fund patents, CVIP operations, and research grants
 - Twenty percent (20%) to the University entity or entities that provided the resources for development of the Intellectual Property, to fund research and scholarship
 - Sixty percent (60%) to the campus of the inventor or creator to fund research and scholarship

Equity held within the University will be managed by the Treasurer. Equity may also be held on behalf of the University by the University of Massachusetts Foundation, Inc. or another outside investment advisor to minimize potential institutional conflicts of interest.

H. Enforcement

The Director, the Vice Chancellor for Research, or the President may refer any matter to the appropriate University official for disciplinary or other appropriate action.

I. Appeals

If a faculty member disagrees with any decision by the Vice Chancellor for Research or the Director, the faculty member may request an advisory opinion from an ad hoc faculty committee composed of three members appointed by the Chancellor for that campus and three members appointed by the Faculty Senate. The faculty member and the Vice Chancellor for Research will each present their views to the committee. The committee will adopt an opinion by vote of a majority of its members. In the event of a deadlock, the committee may adopt two opinions. The committee will transmit its written opinion to the faculty member, the Vice Chancellor for Research, and the Director.

If the disagreement persists, the faculty member may appeal the matter to the President (or his or her designee). The President will consider written statements by the faculty member, the Vice Chancellor for Research, and the Director, as well the advisory opinion rendered by the ad hoc committee. The decision of the President shall be final within the University.

In the case of Covered Individuals other than faculty members, the President shall have authority to overrule any decision of a Vice Chancellor or the Director. The decision of the President shall be final within the University.

If a Covered Individual disagrees with the final University decision, the Covered Individual may exercise his or her individual legal rights to pursue the matter in a court of law located in the Commonwealth of Massachusetts. This acknowledgment by the University that a Faculty Member has the right to pursue a legal claim is not an admission by the University that any Faculty Member actually has any actionable legal claim. Rather, the University seeks to preserve the legal rights of a Faculty Member outside of the collective bargaining process after internal appeals are exhausted.

J. Interpretation of Policy; Exceptions

The Director shall administer this Policy in regular consultation with the Vice Chancellors for Research and the President. The President shall have authority to interpret this Policy and, upon recommendation of the Vice President for Economic Development and in consultation with the General Counsel, may grant exceptions to the Policy in appropriate cases.

K. Reports

The Vice Chancellor for Research shall file with the Faculty Senate an annual report on disclosures and materials transfer agreements, indicating the number received, time involved in processing, and disposition. The report shall present summary statistics and shall maintain the confidentiality of individual disclosures.

(Amherst/Boston Version, 2/3/97 revised 3/24/97)

UNIVERSITY OF MASSACHUSETTS AT AMHERST
PARTICIPATION AGREEMENTVICE CHANCELLOR FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

OCT 12 1988

I have read and understand the Patent Policy of the University of Massachusetts at Amherst and Boston (T85-091A), a copy of which is attached hereto and made a part hereof. In consideration of the benefits to me which result from my participation in research supported by the University of Massachusetts I agree to abide by said policy, as amended.

I agree to disclose promptly to the University Patent Administrator in reasonable detail and on the University's standard Invention Disclosure Form (P2) every discovery or invention (together referred to hereinafter as Invention) which I shall conceive or reduce to practice, individually or jointly with others, during the course of such participation.

In compliance with Article VI A2 of said Patent Policy, for inventions resulting from research for which I receive financial support from the UNIVERSITY or make use of University funds, facilities (excluding libraries), equipment or materials, I agree if requested by the University Patent Administrator to do the following:

- (1) assign to the UNIVERSITY (or its designated entity) all rights which I have or may acquire in such Inventions in the United States and foreign countries;
- (2) supply all information and execute all documents necessary to obtain, maintain and protect the University's patent and other proprietary rights in such Inventions;
- (3) comply with any obligations of the University to the United States Government or other sponsors under contracts or grants with respect to such Invention.

I further agree to insure that each person, excluding clerical and non-technical workers, who participate in research supported by the University of Massachusetts and for which I am Principal Investigator, has signed and deposited a copy of this PARTICIPATION AGREEMENT with the Amherst campus Office of Grant and Contract Administration.

It is understood that should any Invention made by me and assigned to the University result in royalties and/or fees paid to the University, I shall share in these royalties and/or fees in accordance with the University's PATENT INCOME SHARING SCHEDULE as set forth in Article VIII of said Patent Policy.

DATE: 10-11-88 SIGNATURE: James M Robl
DEPARTMENT: Vet & Anim Sci TYPE OR PRINT NAME: James M Robl

Kob1 James M

laborative, non-sponsored research, the rights and equities in such invention shall be determined through negotiation between the University and the collaborating entity.

"net income" - income less all costs incurred by the University in patenting and licensing an invention, including, but not limited to, administration, patent research, application and enforcement, and costs associated with commercial utilization.

"Patent Administrator" - an individual with knowledge in the area of obtaining and licensing patents, designated by the Chancellor in writing to perform the duties specified in this policy.

"Patent Review Committee" - a six (6) member committee on each campus, three (3) members to be appointed by the Chancellor or designee and three (3) to be elected from the faculty pursuant to a secret ballot election after nominations have been submitted to the appropriate governance body on each campus.

"sponsor" - any individual, or organization, including an agency of the Federal Government, which enters into a contract or agreement with the University and provides funds for work of the University.

"University" - the University of Massachusetts.

III. PATENT AUTHORITY.

The President, or Chancellors upon appropriate delegation, may enter into agreements with respect to ownership and other rights related to patentable inventions, to obtain patents, and to grant licenses in the name of the Trustees for all patentable inventions under their jurisdiction.

IV. SCOPE AND APPLICABILITY.

This policy shall apply to all individuals associated with the University.

V. RIGHTS AND EQUITIES.

Any individual associated with the University who claims or intends to claim any interest in an invention conceived or reduced to practice shall file with the Patent Administrator or designee, in such form as he/she shall determine, a complete description and report of said invention.

A. Inventions From Independent Research by University Personnel.

An invention resulting from the research of an individual (or individuals) associated with the University shall be the property of such individual (or individuals) and the University shall claim no property rights thereof if none of the following applies: a) research utilizing University resources, including but not limited to facilities (excluding libraries), equipment, materials, or University time; b) research by an individual (or individuals) that is required to carry out the terms of a sponsored agreement entered into by the University. Any individual associated with the University who claims or intends to claim any interest in an invention arising out of independent research shall file with the Patent Administrator or designee, in such form as he/she shall determine, a complete description and report of said invention. The Patent Administrator or designee shall within ninety (90) days of receiving said description and report determine whether the invention is a result of independent research in which the University has no interest. On or before the 90th day the inventor shall be notified of this decision in writing. In cases where the University claims no interest, the inventor may request that the invention be appraised by, and if appropriate, assigned to the University or the University of Massachusetts Foundation, Inc. If the Patent Administrator determines that the discovery has significant commercial potential, the Patent Administrator may recommend that the University or the University of Massachusetts Foundation, Inc., undertake the development of the invention in accordance with Article VI C. of this Policy.

B. Inventions From Research by Non-University Personnel.

Any party not associated with the University who wishes the University to further develop and refine a potentially patentable work shall enter into a written agreement approved by the Patent Administrator or designee which shall be subject to the terms and procedures of this policy.

C. Inventions From Sponsored Research by University Personnel.

Inventions made by individuals associated with the University involving use of University funds, facilities (excluding libraries), equipment, materials, or time, or which were developed under research required to carry out the terms of a sponsored agreement entered into by the University, shall be the property of the University.

D. Inventions From Research Sponsored by the Federal Government.

Inventions arising from research sponsored by the Federal Government shall be controlled by the terms of the contract, grant, or cooperative agreement, and any applicable Federal regulations. Where patent rights are not claimed or are waived by the Federal Government, such inventions or discoveries shall be controlled by this policy. When the Federal Government will not release rights to such inventions, the University shall request the right of use of such inventions without payment of royalty or other charge, and any other possible rights consistent with the University's scientific and educational purposes.

E. Inventions From Research Sponsored by Other Entities.

Rights to inventions arising from research sponsored by non-governmental entities shall be governed by the terms of the contract or agreement between the University and the sponsor. The University normally retains title to inventions made under its sponsored programs with the understanding that it will license the inventions to industrial sponsors under an active patent management program designed to serve the public interest by insuring that such inventions are developed to the point of maximum utilization and availability to the public. A nonexclusive, irrevocable, royalty-free license is normally granted to the sponsor of the research which resulted in an invention. Recognizing, however, that some inventions require substantial private development before reaching commercial usefulness, the Patent Administrator may, on behalf of the University, offer incentive to such private development through the granting of exclusive licenses to motivate the sponsors of the research to commercialize such inventions. If a sponsor has supported the research which resulted in a patent by paying all costs, direct and indirect, associated with the research, the sponsor shall under most circumstances be entitled to an exclusive license for the life of the patent at reasonable royalty rates to be negotiated at the time of license. To ensure that the public interest is served and that the licensees will exercise due diligence in developing the invention for commercial use, the license will establish minimum annual royalties to be paid after a given period and performance milestones to be met if the license is to continue in effect. In granting such an exclusive license the University shall retain an irrevocable, royalty-free license to practice the invention for its own research and educational purposes. In unusual cases, the University may agree to assign title to potential patents arising from a sponsored research project to the sponsor where it is determined by the Patent Administrator that such assignment will serve the public interest. Such an agreement shall provide that the sponsor pay the full costs, direct and indirect, of the research project, plus a consideration to be negotiated by the Patent Administrator. The proposed research agreement will be reviewed with the University Patent Administrator to establish that the proposed assignment of title will not impinge upon either the University's commitments under other sponsored research programs or its own equities in technology under development. Where a patent application results from the research covered by the agreement, the negotiated consideration shall be distributed in accordance with provisions of Article VIII.

VI. PROCEDURES.

A. In General.

1. Any individual associated with the University shall, prior to entering into any agreement conveying rights to own or use research data, patents or inventions made under the conditions set forth at V.B, V.C, V.D,

V.E. review the terms of such agreement with the Patent Administrator or designee. A copy of such agreement, if entered into, shall be filed with the Patent Administrator.

2. Any individual associated with the University who engages in research shall, prior to the University's execution of the grant or contract, sign a Participation Agreement with the University, in such form as the Patent Administrator shall determine, by which said individual shall agree to comply with this policy, as it may be amended from time-to-time; to assign to the University or any other designated entity any and all inventions made during his or her association with the University in which the University has an interest; to execute necessary documents at the time of patent application; and to do anything else reasonably required to assist the University in obtaining, maintaining, and protecting its patent rights.

3. Proposed University/Sponsor agreements which include provisions for disposition of inventions or other patent matters shall be reviewed, normally within five (5) days, by the Patent Administrator and approved by the Director of the Office of Grant and Contract Administration prior to execution by the treasurer of the University, or by their designees.

B. Campus Patent Review Committees.

1. A campus Patent Review Committee shall be constituted of not more than six (6) members, three (3) appointed by the Chancellor or designee, and three (3) elected from the faculty by a secret ballot election on each campus in accordance with the procedure agreed upon by the parties.

2. Should a disagreement between the Patent Administrator and the principal investigator arise in the following areas, the review procedure noted in VI. B 3 shall apply:

- a. Appropriateness of waiver or lack of waiver of the applicability of this policy by the Patent Administrator for an adjunct faculty member;
- b. Determination by the Patent Administrator of the University's interest in an invention;
- c. Determination by the Patent Administrator to retain the patent for the University;
- d. Determination by the Patent Administrator to grant or deny a type of license to a research sponsor;
- e. Objection by the Patent Administrator (at the time the University is asked to commit formally to disposition of inventions) to the proposed disposition;
- f. Determination by the Patent Administrator not to pursue a patent or the commercial development of an invention.

3. Should a disagreement between the Patent Administrator and the principal investigator arise concerning any matter enumerated in VI. B 2, the following procedure shall apply:

- a. The Patent Administrator shall state in writing to the principal investigator of the department his/her proposed disposition of the matter;
- b. If the Principal Investigator or department objects to the Patent Administrator's proposed disposition of the matter, then the principal investigator or department shall state his/her or its objections in writing to the Patent Administrator;
- c. The Patent Administrator shall convene the Patent Review Committee to consider the matter by reviewing the written statements submitted by the Patent Administrator and the principal investigator or the department. After such review, the Patent Review Committee shall issue its own written recommendation simultaneously to the Patent Administrator and the principal investigator or the department;

- d. If the Patent Administrator does not accept the Patent Review Committee's recommendation, the Patent Administrator shall provide reasons in writing to the Provost for his or her decision;
- e. The principal investigator may then state his or her position in writing to the Provost and ask that the Provost review the principal investigator's position, the Committee's recommendation, and the Administrator's written reasons, and render a decision in writing.

C. Procedures for Processing Inventions.

1. Any individual associated with the University shall promptly make a full disclosure of any invention to the Patent Administrator or designee, in such form as the Patent Administrator shall determine, and sufficiently prior to public disclosure thereof to permit timely filing of any patent application in the United States and/or in foreign countries.
2. Upon receipt of such disclosure, the Patent Administrator shall review the patent provisions of the appropriate contract or grant award to determine the interests of the University in the invention.
3. If the University is not entitled to patent rights in the invention, the Patent Administrator shall so notify the inventor and formally report the invention to the sponsor, if any. If the sponsor is a federal agency, the Patent Administrator shall notify the Director of the Office of Grant and Contract Administration that a disclosure has been filed and specify the grant and contract involved.
4. Under normal circumstances, within 75 days after receipt of the disclosure statement, the Patent Administrator shall complete an evaluation of the invention and shall make a recommendation to the Chancellor regarding the patentability and commercial potential of such invention.
5. In the event the University elects to proceed, the University shall use reasonable efforts to obtain a patent and effect its commercial development. The University may at its discretion enter into contracts with outside management organizations covering any inventions or patent developed therefrom, in which the University has an interest. Should the University receive royalties from the commercial development of a patent, it shall pay the inventor a share, as outlined in Article VIII, Patent Income Distribution.
6. In the event the University declines to file a patent application or to proceed with commercial development of a patent, under normal circumstances within 75 days, it shall, upon the request of the inventor but subject to any prior commitment to a sponsor, execute a formal waiver of rights to the inventions in favor of the inventor, who shall be the sole owner of patent rights in the invention.
7. In the event the University determines that it has no proprietary interest in an invention or releases the invention to the inventor, the inventor shall not use the name of the University in connection with the invention without the prior written approval of the Board of Trustees.

VII. THE ROYALTY.

After consulting with the principal investigator, the Patent Administrator, on behalf of the University, shall negotiate a royalty with the sponsor.

VIII. PATENT INCOME DISTRIBUTION.

Income generated by patents owned by the University or the University of Massachusetts Foundation, Inc., shall be received solely by the University or the University of Massachusetts Foundation, Inc., and shall, except where the funding agreement specifies otherwise, be distributed as follows:

1. All income received by the University shall first be used to defray the costs incurred by the University in patenting and marketing an invention, including, but not limited to, the costs of administration, patent research, application and enforcement, and commercial utilization;

2. Net income shall be distributed in accordance with the following Patent Income Sharing Schedule. The college and departmental shares shall be administered by the dean of the college and the head of the department, respectively, in support of research-related programs. The Chancellor's trust fund shall be administered by the Chancellor in furtherance of the University's research mission at that campus. The Patent Development Fund shall be administered by the campus Patent Administrator to defray the costs of patent-related activities and in furtherance of the objectives of this Policy. The Trustees Development Fund shall be administered by the President in furtherance of the University's research mission;

3. No amendment to this Policy shall decrease the Inventor's share of royalties received under any assignment or license that is executed before the date of said amendment.

PATENT INCOME SHARING SCHEDULE

| Net Annual Income | Percentage To: | | School/ Faculty College* | Chancellor's Trust Fund(s) | Patent Development Fund | Trustees Development Fund |
|---------------------------|----------------|-------|--------------------------------|-------------------------------|-------------------------------|---------------------------------|
| | Inventor | Dept* | | | | |
| First \$1,000 | 100 | - | - | - | - | - |
| Next \$9,000 | 75 | 10 | 5 | 5 | 5 | - |
| Next \$15,000 | 60 | 15 | 10 | 5 | 5 | 5 |
| Next \$25,000 | 45 | 15 | 15 | 15 | 5 | 5 |
| Next \$50,000 | 35 | 15 | 15 | 25 | 5 | 5 |
| In Excess of \$100,000 | 25 | 15 | 15 | 35 | 5 | 5 |

*In any fiscal year, when the cumulative total patent income accruing to a Department or School/Faculty/College reaches an amount equal to 15% of the unit's State budget for that year, further patent income shall not accrue to the unit but shall be deposited in the appropriate trust fund.

IX. UNIVERSITY OF MASSACHUSETTS FOUNDATION, INC.

Rights and responsibilities under this policy may be executed by the University of Massachusetts Foundation, Inc., with the concurrence of the inventor.

X. AMENDMENT.

This Policy may be amended from time-to-time after negotiations between the Administration and the Union.

March 3, 1986

MEMORANDUM OF UNDERSTANDING

It is understood between the Massachusetts Society of Professors/Faculty Staff Union/MTA/NEA and the Board of Trustees of the University of Massachusetts on behalf of the Board of Regents of Higher Education that the following agreements, as they relate to the Patent Policy for the University of Massachusetts at Amherst and Boston, have been reached:

1. While the Patent Policy is applicable to all individuals associated with the University at the Amherst and Boston Campuses, not within the collective bargaining units, it is understood that the rights and responsibilities of the MSP/FSU/MTA/NEA to represent individual(s) are limited to the unit faculty and librarians as designated in the certification held by MSP/FSU/MTA/NEA as the exclusive bargaining agent for said unit.
2. Any gross income or royalties from a patent filed under this policy which is invested by the University of Massachusetts Foundation, Inc., shall be reported to MSP/FSU/MTA/NEA on a regular basis and shall contain a full statement of all receipts and disbursements from said income or royalties.
3. Issues as they relate to "software" and "computer programs," although potentially defined as within the purview of Title 35 of the United States Code, shall not be addressed by the Patent Policy for those unit faculty and librarians represented by MSP/FSU/MTA/NEA. However, both parties retain the subsequent right to bargain over such issues at a future date. Such bargaining may result in an agreement to apply the Patent Policy in part or total to any or all issues as they relate to "software" or "computer programs" or any other product to be deemed "intellectual property."
4. Neither issue nor procedures addressed in the Patent Policy are grievable under Article XXV of the collective bargaining agreement.
5. This Patent Policy does not modify the current policy on outside consulting; however, the Board of Trustees reserves the right to seek modifications of said policy through future negotiations with the MSP/FSU/MTA/NEA. Furthermore, the Board of Trustees reserves the right, if deemed necessary and appropriate, to seek clarification from the Massachusetts Labor Relations Commission on that aspect of Massachusetts Board of Regents of Higher Education (University of Massachusetts) vs. Massachusetts Society of Professors/Faculty Staff Union/MTA/NEA (SUP-2703) as it relates to disclosure to the University by an individual associated with the University surrounding the research of and patenting of material while said individual is participating in a consulting arrangement.

T85-091A
April 2, 1986

PATENT POLICY
UNIVERSITY OF MASSACHUSETTS AT AMHERST AND BOSTON

The Board of Trustees of the University of Massachusetts hereby adopts the following patent policy for the University of Massachusetts at Amherst and Boston.

I. OBJECTIVES.

This Policy is intended to:

- provide a mechanism for bringing University inventions into the public realm and promote maximum utilization of such inventions for the greatest possible public benefit;
- advance and encourage research at the University by equitably allocating the benefits of inventions and discoveries to the University, the inventors, and the sponsors of research programs;
- safeguard the mission of the University by establishing a mechanism for regulating the University's involvement in the development of inventions and discoveries and its relations with sponsoring agencies and institutions.

II. DEFINITIONS.

The following terms shall have the following meanings unless the context of this policy otherwise requires:

"Chancellor" - the Chancellor of the University of Massachusetts at the Amherst or Boston campus, as the case may be.

"Foundation" - the University of Massachusetts Foundation, Inc.

"income" - the gross income or royalties generated by the commercial development of a patent owned in whole or in part by the University.

"individual associated with the University" - any person holding any form of employment or appointment at the University with or without compensation or any person who has student status (including, without limitation, faculty, professional and non-professional staff, fellows and post-doctoral fellows, undergraduate and graduate students, and volunteers). A waiver of applicability of this policy shall be granted by the Patent Administrator in the case of an adjunct faculty member who is not compensated by the University and who, as a condition of employment elsewhere, must assign patent rights or grant an exclusive license to his or her employer.

"invention" - any invention, discovery, or other work product which is or may be patentable or otherwise protectable under Title 35 of the United States code, excluding software/computer programs.

"inventor" - any individual associated with the University who makes an invention; also, any "inventorship entity" comprising two or more individuals one or more of whom are associated with the University who jointly make an invention.

The determination of rights and equities in an invention resulting from research which is not independent and which is being conducted in collaboration with researchers at entities other than that of the University of Massachusetts shall be determined in timely fashion by the Patent Administrator, and shall be the subject of a written agreement between the University and the collaborating entity, prior to execution of a grant or contract for the performance of the research. In the event that an invention is made in the course of on-going col-

UNIVERSITY OF MASSACHUSETTS AT AMHERST

Participation Agreement

- Visiting Researcher -

In consideration of the benefits that I receive as a result of my access to University-administered funds and University-funded time, facilities, and equipment, I agree as follows:

1. Acknowledgment. I acknowledge that I have read and understood the Intellectual Property Policy (the "Policy") of the University of Massachusetts (the "University"), a copy of which is attached to this Agreement, and I agree to abide by the terms of such Policy, as amended. I understand that capitalized terms used in this Agreement are defined terms that, if not defined in this Agreement, are defined in the Policy.

2. Scope. I understand and agree that I will not be required to disclose or assign to the University any Intellectual Property that I may have developed before I became a visiting researcher of the University ("Prior IP"). However, if I continue to work on the Prior IP while I am a visiting researcher at the University, the University may claim ownership of any new Intellectual Property as described in Section 3 below. In addition, I understand that this Agreement applies to the following project as well as any other Intellectual Property I may develop at University facilities:

Consulting in weekly time periods three times/year, with the first visit on April 11 through April 21, 1999, for a maximum of two years on subjects pertaining to research topics supporting Cyagra's funded research in Dr. James Robl's laboratory on OGCA SRA #99A0106 "Transgenic Strategy for Production of Single Sex Offspring" or OGCA SRA #99A0115 "Strategies for Cloning of Adult Cattle".

Such project will also include modifications or additions to the original project outlined above as they occur during the project term. This Agreement will terminate when the project concludes or my involvement in the project ceases, but my obligations under this Agreement will continue with respect to any Intellectual Property that I may have developed under the Agreement.

3. Disclosure. In accordance with Section III.C.1. of the Policy, I agree to make the following disclosures to the University Office of Commercial Ventures and Intellectual Property ("CVIP") or the Vice Chancellor for Research ("VC for Research"):

- (1) I am encouraged to disclose any Inventions, Copyrightable Works (except Exempted Scholarly Works), and commercially valuable Tangible Research Materials that (i) I develop with significant use of University resources or (ii) that closely resemble a specific research project in which I am engaged at the University; however, if I intend to commercialize such Intellectual Property, disclosure is required reasonably before I take any action to commercialize such Intellectual Property. Examples of commercial actions include, without limitation, seeking patent or copyright protection, commencing discussions with potential investors or licensees, or transferring the Intellectual Property to a third party.
- (2) I am required to disclose any Inventions, Copyrightable Works (including Exempted Scholarly Works), and Tangible Research Materials that the University has specifically hired or commissioned me to develop, except as otherwise provided in a written agreement between me and the University; and
- (3) I am required to disclose any Inventions, Copyrightable Works (including Exempted Scholarly Works), and Tangible Research Materials that I develop in the course of research funded by a sponsor pursuant to a grant or research agreement that requires such disclosure, or which is subject to a materials transfer agreement, confidential disclosure agreement, or other legal obligation requiring such disclosure.

I agree to make such disclosures promptly and in reasonable detail on the appropriate University Disclosure Form. In the case of Inventions that I intend to commercialize, I understand that I should make such disclosure reasonably prior to public disclosure of the Invention in order to provide the University with an opportunity to file a patent application.

4. Assignment of Rights. I hereby assign, transfer, and convey to the University all of my right, title, and interest in any Inventions, Copyrightable Works, and Tangible Research Materials for which the

University asserts ownership under Section III.B. of the Policy. I understand that the University does not assert ownership of Exempted Scholarly Works (such as visiting researcher theses and dissertations) unless such works are specifically commissioned by the University or are subject to a contractual obligation that requires assignment. I further understand the University will ordinarily waive its rights in other Copyrightable Works that the University determines are Scholarly Works. At the request of the University, I agree to execute and deliver promptly a specific assignment to the University of my right, title, and interest to such Intellectual Property, including without limitation any proprietary rights arising from patent applications or copyright registration in the United States and foreign countries. I further agree to supply the University with all information and to execute all documents necessary to obtain and maintain patents, copyrights, or other forms of legal protection for such Intellectual Property. I hereby appoint the University as my attorney to execute and deliver such documents on my behalf in the event that I should fail or refuse to fulfill my obligations under this Section within a reasonable period of time.

5. Income-Sharing; Relinquishment. I understand that, in accordance with Section III.G.I. of the Policy, I will receive a portion of all royalty income and other non-equity revenue derived from the licensing of Intellectual Property that I assign to the University. I will also have an opportunity to receive equity in a company either independently or together with the University (but not both ways). I further understand that, in accordance with Section III.C.3. of the Policy, if the University decides not to commercialize such Intellectual Property, I will have an opportunity to regain title so that I may pursue commercialization of the Intellectual Property.

6. Administrative Procedures. I understand and agree to abide by the administrative procedures for the transfer of Tangible Research Materials and Confidential Information, as set forth in the Policy.

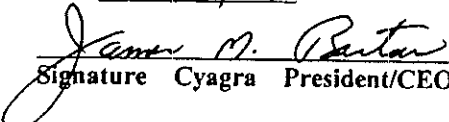
SIGNED:


Signature Visiting Researcher

Name Typed: Dr. Philippe Collas

Organization: PHILIPPE COLLAS CONSULTING

Date: 06/07/99


Signature Cyagra President/CEO

Name Typed: James M. Barton

Business: Cyagra, LLC

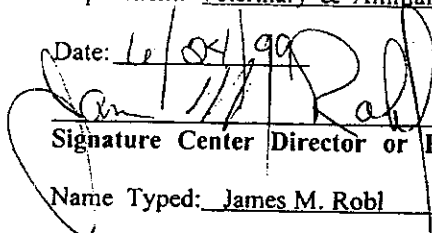
Date: May 24, 1999


Signature Department Head

Name Typed: Robert T. Duby

Department: Veterinary & Animal Sciences

Date: 6/04/99


Signature Center Director or PI

Name Typed: James M. Robl

Department: Veterinary & Animal Sciences

Date: _____


Signature CVIP Director

Name Typed: E. Bradley Moynahan

Department: Commercial Ventures &

Intellectual Property Amherst

Date: 5/20/99

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Morgenthaler to our existing, high-quality investor syndicate. We are confident that our strong management team has the skills and experience to continue to build shareholder value." The company plans to use the Series B funds to advance two primary technology platforms into the clinic and to further develop platforms currently in the research phase. Spine Wave's first technology platform is targeted to treat vertebral compression fractures (VCF), using a series of novel mechanical devices to restore appropriate height and function to the compressed bone while providing stability and pain relief. The National Osteoporosis Foundation estimates there are over 700,000 VCFs each year in the US alone. Spine Wave intends to apply this technology to other orthopaedic and spinal indications.

The second platform is an injectable, in situ curing nucleus designed to augment or replace the natural nucleus following discectomy. Nuclear replacement devices and adjuncts to discectomy are projected to represent two of the fastest growing segments of the billion-dollar spine market.

"With a team of proven spine industry executives, two innovative product platforms, and a top tier investment syndicate, Spine Wave is positioned to be an exciting company in this rapidly evolving marketplace," said Jim Broderick, general partner at Morgenthaler Ventures. Broderick added, "We are very excited about this investment."

About Spine Wave, Inc.

Spine Wave, Inc., based in Shelton, Conn., is an early stage medical device company with two novel product platforms to treat spinal disorders. It was founded in 2001 by Mark LoGuidice and John Pafford, former Medtronic Sofamor Danek (NYSE:MDT) executives, in conjunction with Protein Polymer Technologies, Inc. (OTCBB:PPTI). The Company completed a \$21.8 Million Series A financing and simultaneous merger with VERTx, Inc. in March 2002; Tyler Lipschultz, VERTx's former chief executive and co-founder, joined Spine Wave as vice president and general manager.

4. Chromatin Transfer Promises to Improve Survival, Efficiency in Cattle Cloning, Journal Reports.

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WESTPORT, Conn.--(BUSINESS WIRE)--Oct 28, 2003

A new approach to animal cloning may increase the survival of cloned cattle, thereby overcoming key problems encountered in the widely-used process of nuclear transfer cloning, according to a report in the online edition of Biology of Reproduction, a scientific journal ("Papers in Press" at www.biolreprod.com (DOI:10.1095/biolreprod.103.021220)). The report, by scientists of Aurox LLC, describes the scientific community's first successes using a novel chromatin transfer technology to clone cows. Cloning animals has been proposed as a possible means of manufacturing unlimited quantities of therapeutically useful proteins, including fully human antibodies, against a wide variety of disease targets.

Aurox' development of the chromatin transfer technology has been supported by Hematech LLC, which holds a license from Aurox to apply chromatin transfer for the production of cloned calves that produce human polyclonal antibodies for potential therapeutic and biodefense applications. Dr. James Robl, President and Chief Scientific Officer at Hematech and an Aurox study investigator commented, "The chromatin transfer technique has helped advance Hematech's success in developing our antibody production system. Our ability to reliably and efficiently produce cows that generate our human antibody product will be a great boon as we grow our commercial operations."

"This journal report demonstrates that cloned animals, such as calves, can be reliably produced via in vitro manipulation of nuclei afforded through chromatin transfer," said Philippe Collas, Ph.D., lead investigator of the Aurox study and Professor at the Institute of Medical Biochemistry, University of Oslo. "We may be able to determine if and how the chromatin is 'repackaged' when nuclei and cells are functionally reprogrammed and identify which molecules do the job. And importantly, by using chromatin transfer to create cloned embryos that more closely resemble normal embryos, we reported a trend towards lessening the number of tries needed to produce a viable pregnancy in cattle, and greater survival of the cloned calves at one month after birth."

Nuclear Transfer vs. Chromatin Transfer

In conventional nuclear transfer, the intact nucleus from an adult somatic donor cell, such as a skin cell, is placed into an oocyte (egg cell) from which the genetic material - the chromosomes - has been removed. The oocyte is then activated and divides to become a cloned embryo. As a result of differentiation into their specific cell types, the nuclei of somatic cells exhibit a different pattern of markers compared to the nuclei of normal embryonic cells that have not yet differentiated themselves into specific cell types. These differences may lead to some of the widely reported limitations to the application of nuclear transfer in mammalian cloning, including low rates of embryonic development, high rates of pregnancy loss and low survival of cloned offspring.

The goal of the new chromatin transfer system is to produce a cloned embryo that more closely resembles a normal embryo. The first step is to create holes in the donor cell membrane (permeabilize) to provide direct access to the cell nucleus. Soaking the permeabilized cell in a special media causes the membrane of the nucleus to dissolve and enables removal of specific somatic cell regulatory proteins (remodeling) from the chromatin (genetic material and associated proteins). The permeabilized cell, containing the remodeled chromatin, is then fused to an egg cell and activated to create a cloned embryo.

About the Study

In the study, Aurox researchers examined the behavior of the donor nucleus in nuclear transplant embryos and identified several nuclear defects, including assembly of the differentiated cell-specific structural protein, lamin A, enhanced content of pronuclei in TBP, a general transcription factor, and high resistance of DNA to DNase, all of which may affect development of the embryo. The researchers hypothesized that these abnormalities may result from incomplete remodeling of the donor cell nuclei and/or from mis-regulation of expression of differentiated cell-specific genes. Aurox researchers developed a system for reversibly permeabilizing the donor cell to allow direct remodeling of donor nuclei in vitro (i.e., in a test tube). Transplantation of the resulting permeabilized cell, containing remodeled chromatin into recipient oocytes alleviates these defects and yields nuclei that more closely resemble the nuclei of normal embryos. The DNA in chromatin transfer embryos showed increased sensitivity to DNase treatment, suggesting that it is in a more "open" configuration (like embryonic chromatin). In addition, the nuclear remodeling lowered TBP content in nuclei and induced repression of lamin A gene expression in the cloned embryos. Implications of repression of lamin A expression may include enhanced availability of factors required to turn on proper sets of embryonic genes and/or necessary to help turn off additional donor cell-specific genes. By permeabilizing the donor cell to allow condensation of the donor chromatin in vitro and inserting the condensed chromatin into the recipient oocyte, the researchers eliminated many DNA-bound components from the cloned embryos such as transcription factors or other potentially inhibitory somatic components. Finally, researchers used the chromatin transfer technique to create cloned

AUTOMATIC MAILER

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bovine embryos and produced healthy offspring.

The research was supported by Hematech, LLC, the Norwegian Cancer Society and the Research Council of Norway and will be published in the January 2004 print edition of Biology of Reproduction. The research team was lead by Philippe Collas, Professor at the Institute of Medical Biochemistry, University of Oslo, and conducted in collaboration with Aurox researchers, Eddie J. Sullivan, Sriranjani Kasinathan, Poothappillai Kasinathan and James M. Robl.

About Aurox LLC

Aurox LLC is a technology development company currently focused on improving animal cloning and related technologies. The company is currently offering licenses worldwide to its novel technology, chromatin transfer, for animal cloning for agricultural, pharmaceutical and related purposes. For licensing opportunities, please contact James Barton, Chief Executive Officer of Aurox, at (203) 222-3129.

5. Rib-X Pharmaceuticals Receives U.S. Patent for Technology Enabling Antibiotic Structure-Based Drug Design.

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NEW HAVEN, Conn., Oct 30 /PRNewswire/ -- Rib-X Pharmaceuticals, Inc., a privately held biotechnology company focused on the design and development of the next generation of antibiotics to fight multidrug-resistant bacteria, announced today the issuance of a U.S. Patent describing the Company's proprietary technology on the high-resolution crystal structure of the 50S subunit of the ribosome. The 50S is the target for many clinically important classes of antibiotics, including those used to treat both community-acquired and hospital pathogens. "The antibiotic market, at some \$25 billion worldwide, is huge," said Dr. Susan Froshauer, President and Chief Executive Officer of Rib-X. "The patent protects a core component of the Company's structure-based drug discovery approach and helps to ensure the Rib-X advantage in the global hunt for more effective antibiotics."

The 50S subunit is a large drug target, which performs an essential role in the fundamental process of protein synthesis. Having what amounts to a map of the 50S provides the Company an advantage in the design of new classes of antibiotics.

"With the problem of antibiotic resistance on the rise in both hospital and community settings, securing our hold on this proprietary technology will enable us to build faster, efficient and more informed routes to the design of better anti-infective agents," continued Froshauer. "Our goal is a strong and growing pipeline comprising multiple new classes of antibiotic agents, and we are committed to building a substantial patent portfolio to support these efforts."

U.S. Patent No. 6,638,908, which relates to the 50S high resolution crystal structure subunit from *Haloarcula marismortui* and for which Rib-X holds the exclusive, world-wide license, derives from the research of two of the founders of Rib-X, Thomas Steitz, Ph.D. and Peter Moore, Ph.D., both of Yale University.

About Rib-X Pharmaceuticals, Inc.